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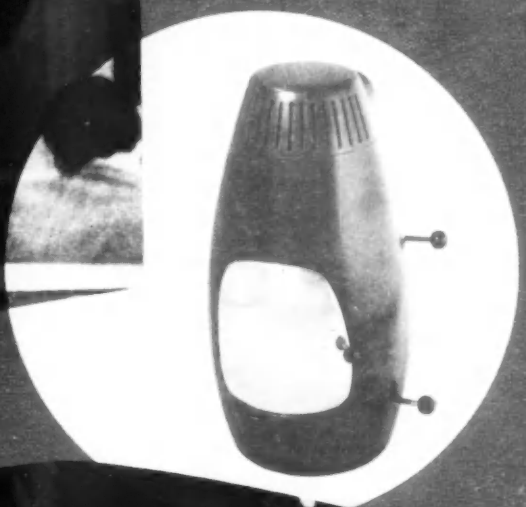
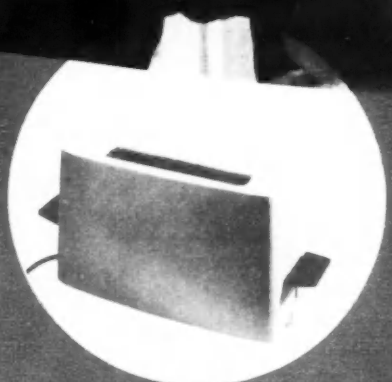
The Council of Industrial Design

April 1958 No 112 Price 3s

Design





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PROFILE OF A CREATIVE MIND

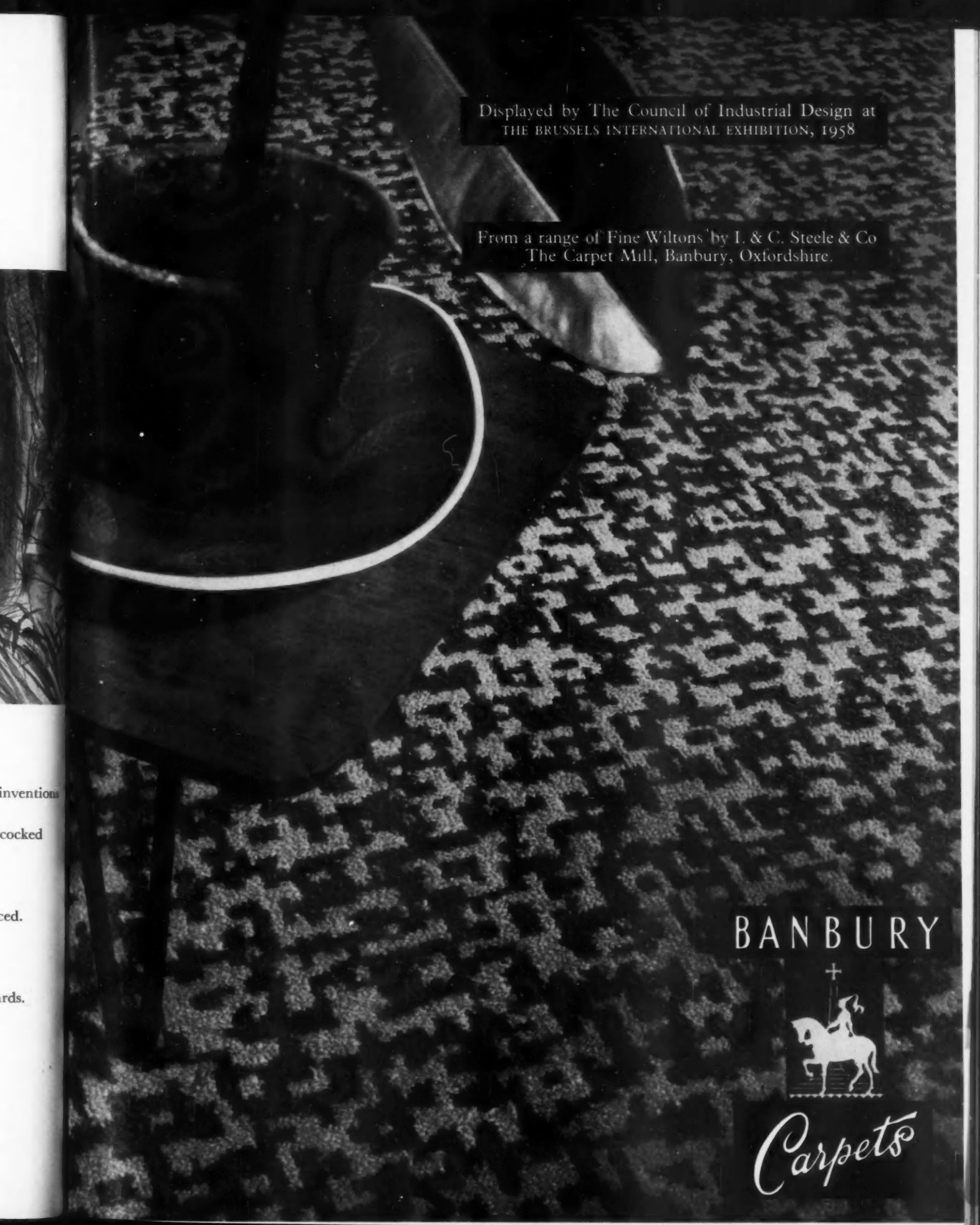
No. 10 Gunsmith

James Purdey (1774-1863) founded a gunsmith business in 1816 which was to become renowned for bespoke sporting guns and rifles. Since then, Purdey's have made guns for most of the world's leading sportsmen.

English guns, particularly those made in London, have long been pre-eminent, and James Purdey, with his many inventions and improvements, did much to establish their reputation. He developed a device whereby flintlocks whose hammers were cocked could be loaded safely, and a rifled target pistol whose accuracy can hardly be surpassed even today. But Purdey was most famous for his double-barrelled rifles. Superbly styled, these were light yet strong, and perfectly balanced. It goes without saying, too, that they were supremely accurate. Captain Horatio Ross, perhaps the greatest all-round shot of all time, proved this when he hit eleven discs, 1¼ inches in diameter, with twelve shots—at a distance of 100 yards.

In I.C.I., creative minds are constantly searching for new products and processes, and for improvements to existing ones.

ICI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THE BRUSSELS INTERNATIONAL EXHIBITION, 1958
From a range of Fine Wiltons by I. & C. Steele & Co
The Carpet Mill, Banbury, Oxfordshire.
BANBURY
Carpets

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This 20 ft. bottle is made of Fibreglass reinforced plastics.
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The bottle was moulded in halves, $\frac{1}{16}$" thick. It consists of
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The result is a body that cannot corrode, doesn't drum,
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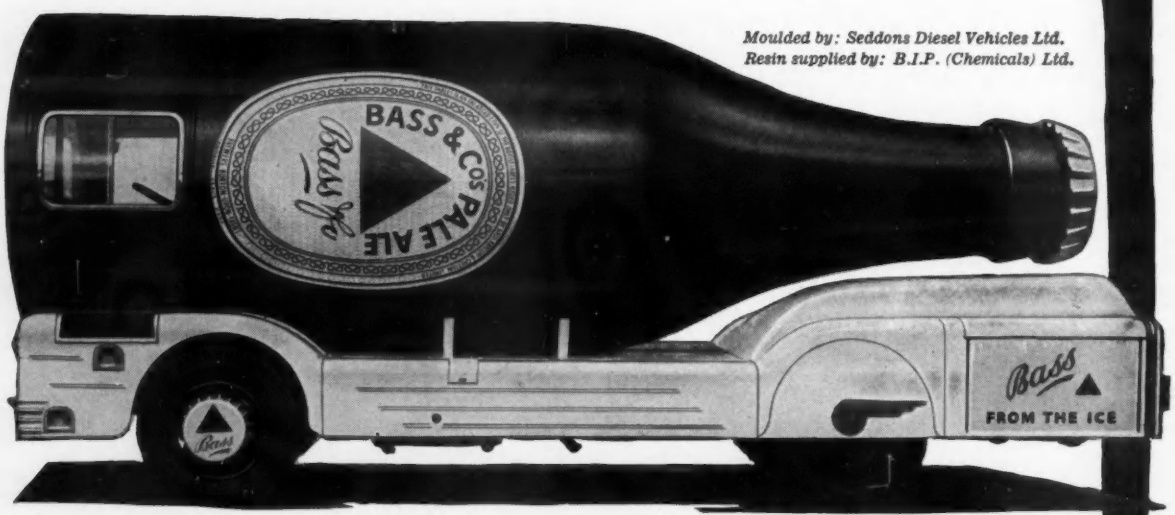
Moulded by: Seddons Diesel Vehicles Ltd.
Resin supplied by: B.I.P. (Chemicals) Ltd.



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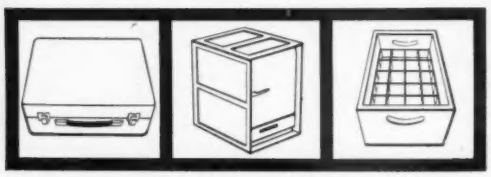

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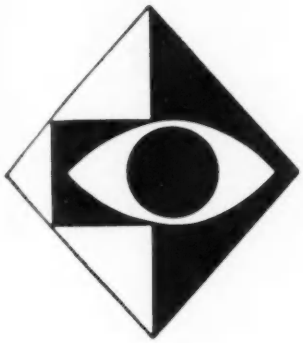

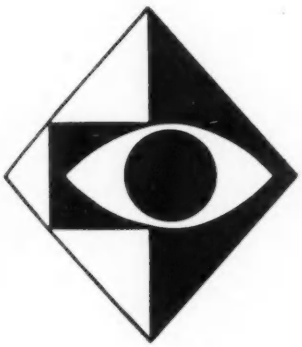

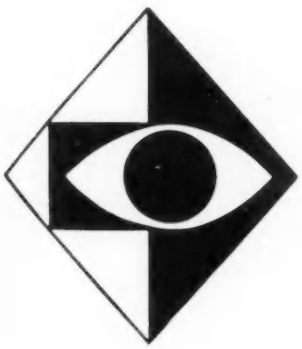

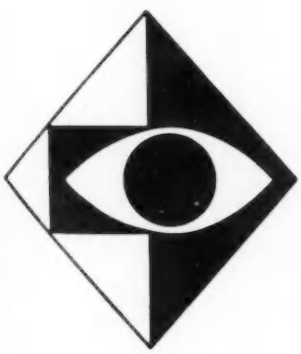

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If you ARE *one of the million and a quarter people who have visited it, you will want to come again. Changes are made every week in this permanent exhibition of well-designed British goods selected by the Council of Industrial Design. It is the most up-to-date and comprehensive shopping guide in the country. If you don't see what you want among the thousand goods on display, you can choose from another* 10,000 *selected items in* DESIGN INDEX *– a whole room full of photographs and samples*

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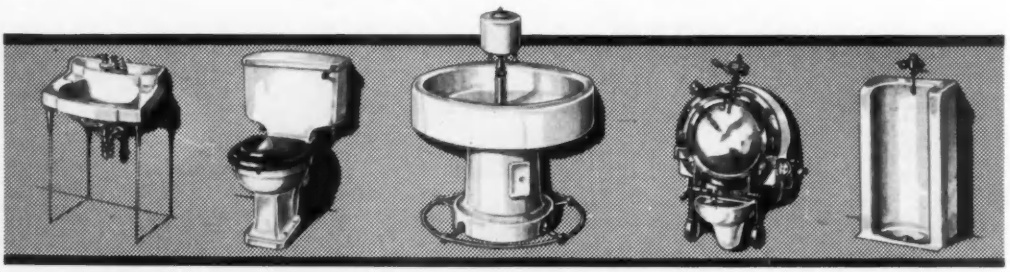

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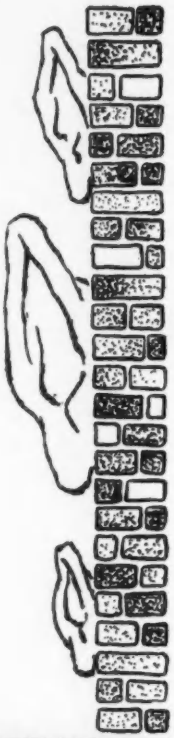

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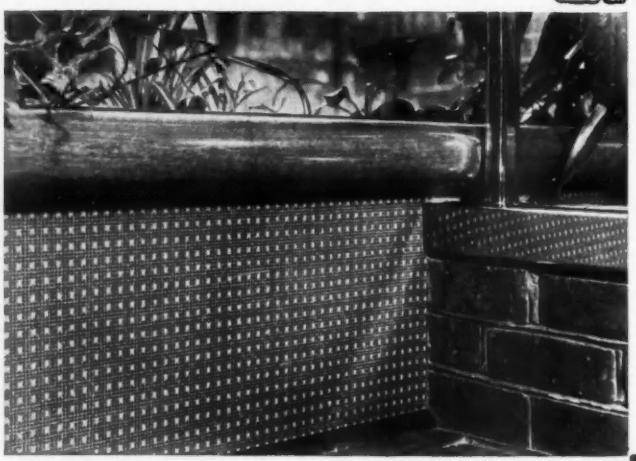

For further information about Geon PVC write for descriptive booklet No. 9

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Photograph taken at "The Wimpy",
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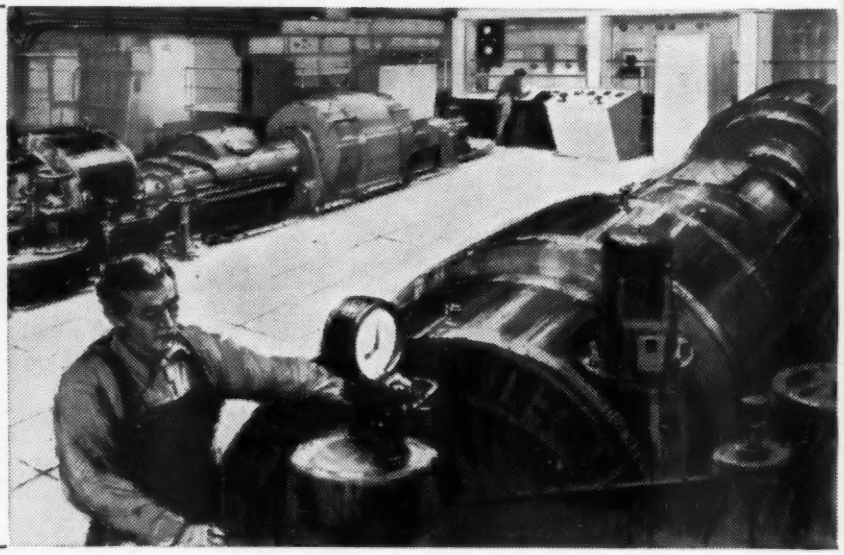

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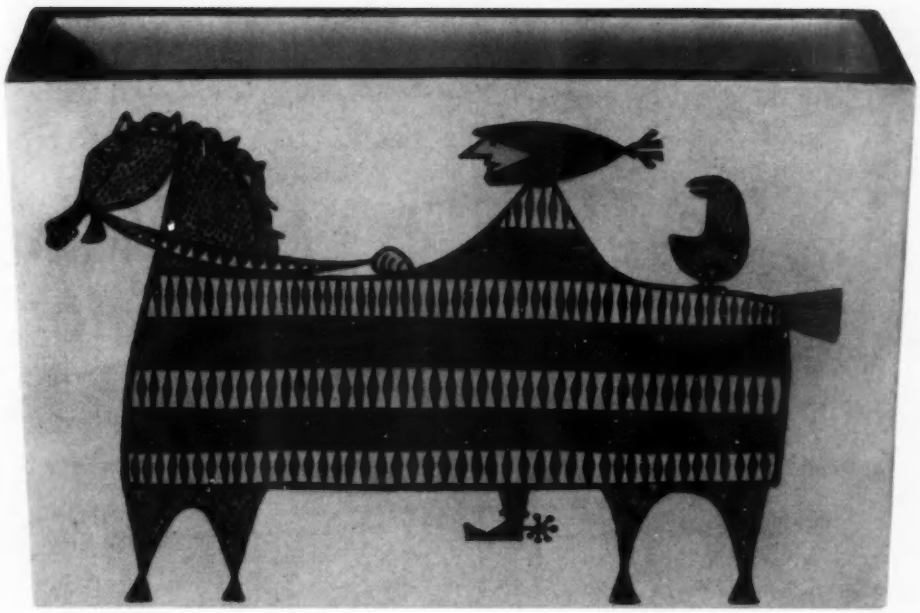

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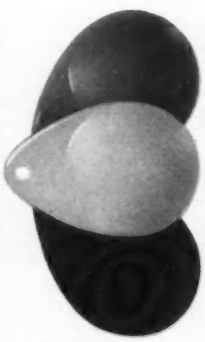

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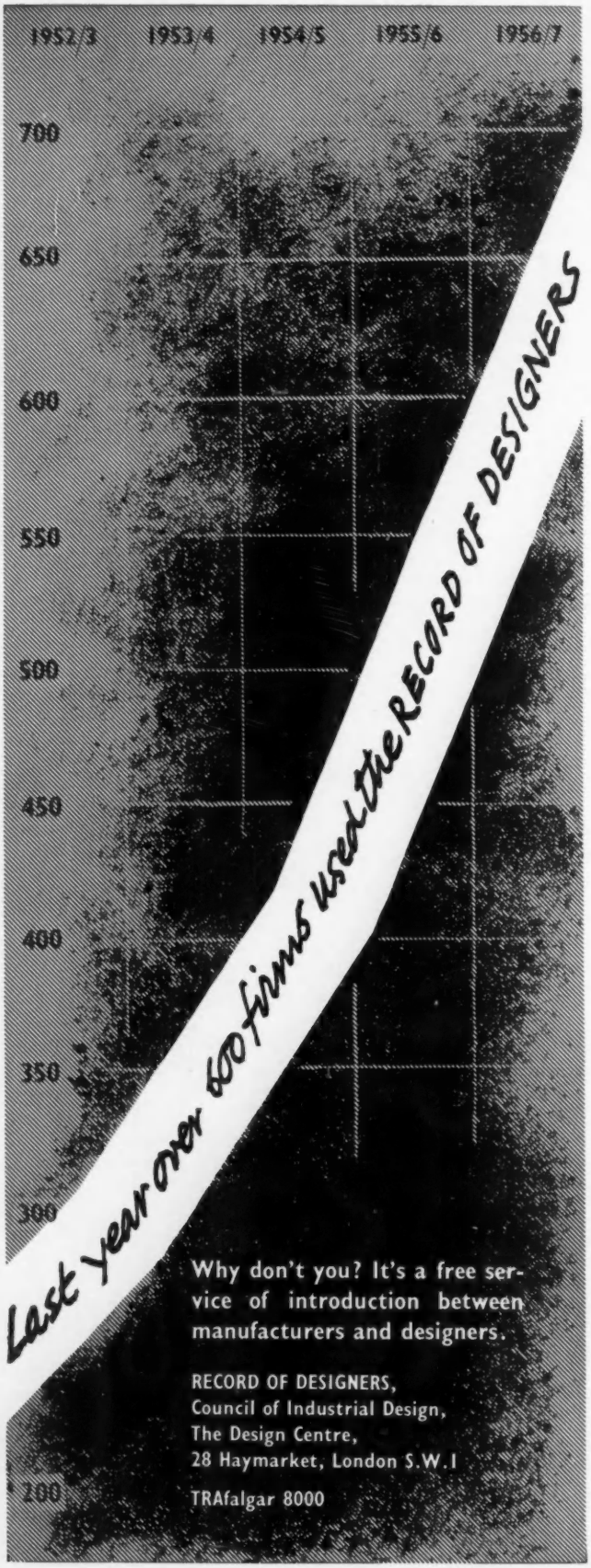

PART OF

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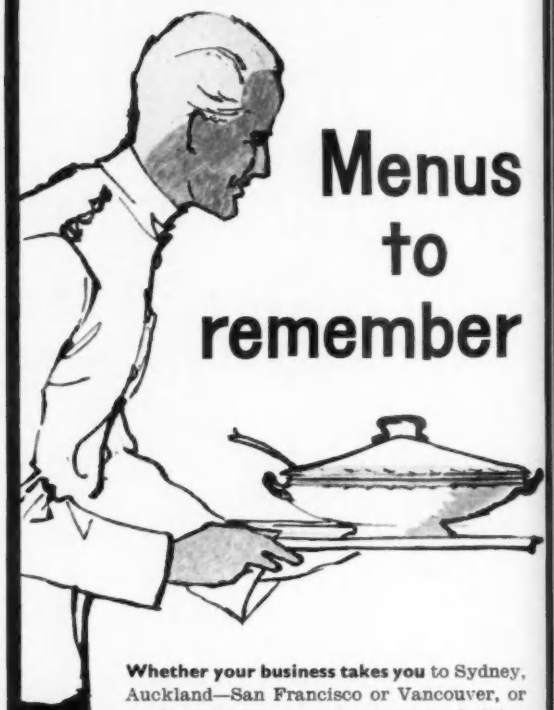

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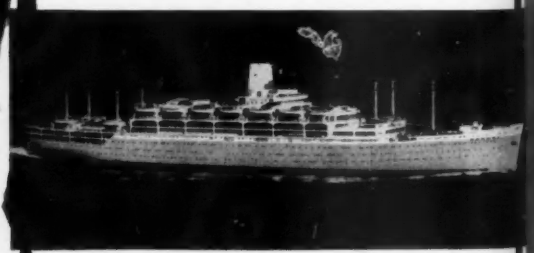

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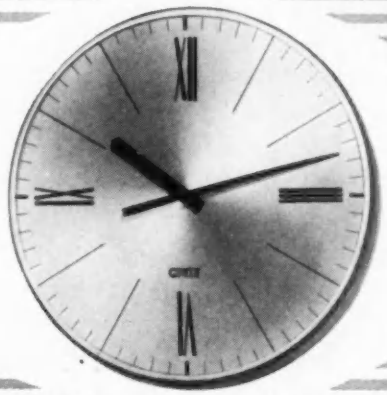

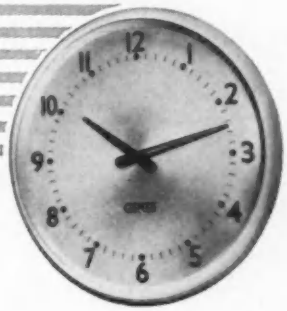

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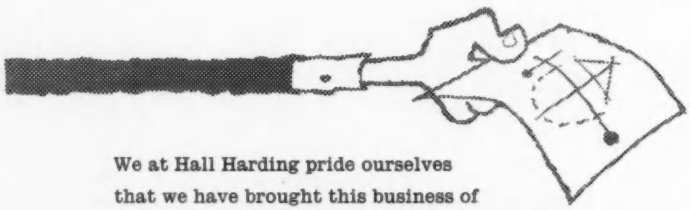

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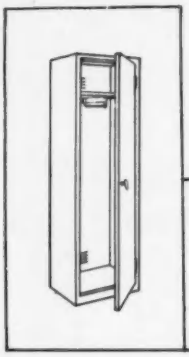

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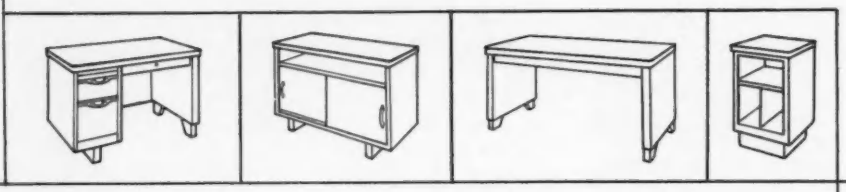

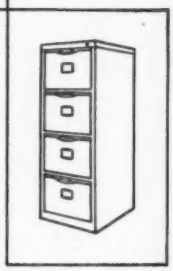

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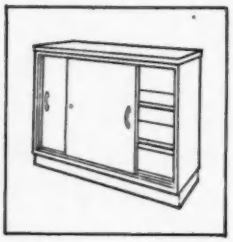

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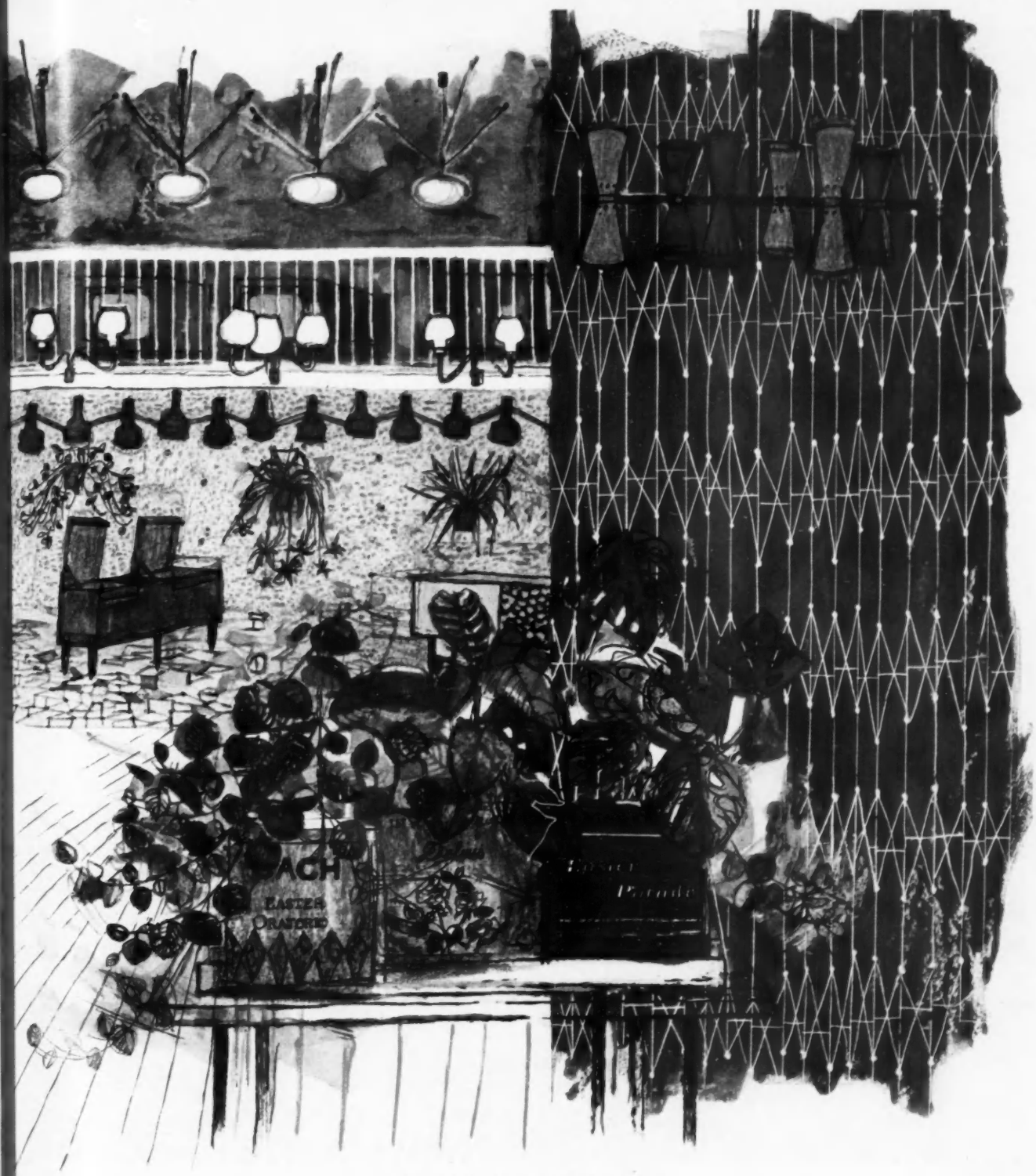

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The addresses of manufacturers in this issue are on page 77

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1

1. Penthouse mess room for the Engineering and Research Divisions of The Bowater Paper Corporation Limited, Northfleet, Kent, in collaboration with the Architects Farmer & Dark F/F R.I.B.A. Photograph by courtesy of Messrs. Holland & Hannen & Cubitts Ltd.

2. Departure lounge London Airport, Architect Frederick Gibberd, C.B.E., F.R.I.B.A., M.T.P.I.

3 Lunch room for Upjohn of England Ltd., Crawley. Architects Russell Diplock Associates. B.ARCH, A.R.I.B.A., A.M.T.P.I., Architects and Planning Consultants.

4. Part of a range of contract seating designed for durability in public buildings.

5. Conference room for the Engineering Division of The Bowater Paper Corporation Limited, Northfleet, Kent, in collaboration with the Architects Farmer & Dark F/F R.I.B.A.

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A gap to be filled

"THE FEAR THAT an artist or designer will only add unnecessary decoration to an otherwise efficient machine dies very hard, though experience suggests that a works engineer is much more likely to fall for filigree than is a trained designer – and if he does not he may well go to the other extreme and produce something looking like overgrown 'Meccano'."

We wrote that in DESIGN just over eight years ago, but the problem is still with us and thrown perhaps into higher relief by the rising standards in other industries. It is, too, a many-sided problem. It is not simply a question of education in the factory, nor even at head office, though many firms in the engineering industries are still woefully ignorant of the role of the industrial designer. It is also a problem for the designer, or more accurately for his professional organisation, the Society of Industrial Artists, for there are all too few engineers who are artists enough or artists who are engineers enough to ensure that machines, whether they are consumer or capital goods, look as well as they work and *vice versa*.

But these are only the symptoms. The root of the trouble, as a feature in this issue underlines, is to be found much further back in the schools and even perhaps at the Ministry of Education itself, for it is there that the basic decisions on the supply of trained designers are taken.

And yet, as many manufacturers are now realising, the greatest scope for and the greatest contribution from industrial design lie in the field of product design or product engineering as it is sometimes called in the USA. The number of enquiries for product designers received by the CoID's Record of Designers increases most encouragingly each month, but the Record is often hard put to it to meet the requests; indeed some over-stretched consultants in this field have had to turn work away.

In view of the export importance of our engineering industries every incentive should be given in the national interest to the recruitment and training of industrial designers who, working alongside engineers and other technicians, can give to a machine or a product that extra distinction that will turn a sale. It seems ridiculous, for instance, as we learned the other day, that the annual intake into one of our leading art schools should be so regulated that each course should contain the same number of students, irrespective of the demand or prospects for them: 15 a year for furniture, 15 for pottery, 15 for textiles, and 15 also for industrial design – a course which serves not just a single industry but the whole range of production from metal working to plastics.

It would be a sad story if just as industry wakes up to the need for good product designers it has to be told that there are not enough to go round. But that may happen unless action is soon taken to recruit more young people of the right calibre into the profession, to step up the quantity and quality of training courses, and to relate the courses more closely to the demands and techniques of the engineering industries. P.R.

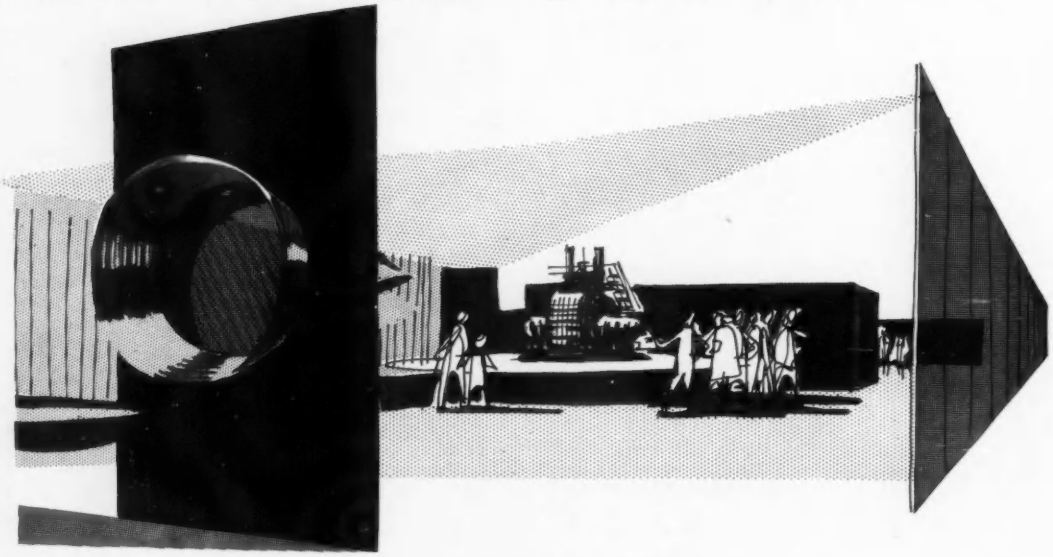
Pointers

ZETA at Brussels

The recent release of information on ZETA, or zero energy thermonuclear apparatus, was just in time for its incorporation in the 'British Government Pavilion' at the 'Brussels International Exhibition'.

As every schoolboy knows by now ZETA is the successful experimental apparatus developed at Harwell which has opened up the prospect of using fusion-reaction to produce an unlimited supply of electrical power from sea water, and as such is one of the most important scientific developments of the century.

James Gardner, the chief display designer, has replanned the main gallery of the pavilion so that ZETA can take its place as the climax to the scientific displays. It is shown as a quarter-scale model floating in the centre of a 22-ft diameter glass disc, illustrated below. The torus is designed to give a vivid flash every 10 seconds, to simulate the electric charge, while the main caption will travel in animated lights across a black wall behind. This first model of ZETA has been made from photographs and detailed drawings as the apparatus itself is now dismantled.



British designs displayed

The CoID's contribution to the 'Brussels International Exhibition', which has been organised at the invitation of the Federation of British Industries, takes the form of a display of more than 200 products from over 100 manufacturers. The selection, which gives a good indication of the extent of the CoID's work, has been made from 'Design Index', the CoID's photographic and sample record of well designed British consumer goods. Exhibits from the following categories are included: building fittings, carpets, cutlery, domestic equipment, furnishing textiles, furniture, glass, household tools, kitchen equipment, leather goods, lighting, linoleum, metal, wood and plastics tableware, office equipment, optical equipment, pottery, radio and television receivers, sports goods and wallpapers.

Each manufacturer who is represented by a product will receive a certificate of merit from the CoID.

The exhibition stand itself, below, has been designed by Robert Gutmann, the product and exhibition designer (see page 65). It is situated at the end of the British Industries Pavilion and in that position it effectively forms the culminating feature.

TRAINING PRODUCT DESIGNERS

Are current methods meeting industry's needs?

JOHN E. BLAKE

There is a shortage of adequately trained designers. This shortage is becoming acute in the light engineering industries, where exact requirements in terms of numbers and qualities are difficult to assess. The following article analyses some of the problems involved and points to the type of research that is needed if a reliable assessment of future requirements is to be made. The author wishes to acknowledge the valuable assistance, during the preparation of this article, given by Sydney Foott, head of the CoID education section and Cycill Tomrley, head of the CoID Record of Designers.

Training product designers

IN THIS ARTICLE we are concerned with only one aspect of the work of art schools and colleges – the training of designers for the light engineering industries. These designers are variously referred to as engineering designers, industrial designers, designers of engineered products, or simply product designers, but throughout this article we shall use the last term. Product design can be taken to include most of those mass produced articles in metals and plastics, and occasionally wood and ceramics, that are mainly used by the general public. They therefore include such items as cookers and refrigerators, lighting fittings, gas and electric heaters, solid fuel fires, radio cabinets, door furniture, as well as such things as garden tools, motor cars, office machinery and public transport equipment.

Why has product design been selected from the many other art school subjects for this particular study? The answer is fourfold. First, it is the least typical of all other branches of design training since it involves a large measure of engineering technology. Second, it is the youngest of art school subjects, and of the design professions, yet it is rapidly becoming one of the most important. (Evidence from the CoID's Record of Designers shows that the demand for product designers is already beginning to outstrip the supply. For example, the 1958 output from the Department of Industrial Design at the LCC Central School of Arts and Crafts, due to leave in July this year, is already bespoke.) Third, there is evidence in spite of this that industry is not always satisfied with the training of the product designer who comes direct from art school. Fourth, because of its comparative newness, and because of the widely differing industries involved, it is extremely difficult to find out exactly what industry's requirements are.

The aim of this article is therefore:

to review the work of the main schools which have courses for product designers;

to discuss national policy on the training of product designers and the methods that exists for putting this policy into practice;

to attempt – on the basis of a limited industrial survey – to find out to what extent the schools are meeting the requirements of industry;

to describe the part played by various interested organisations;

to point to those elements in this vast and complex subject which need urgent investigation.

What courses are available?

Although an examination of the prospectuses of many art schools will reveal a large number of industrial design departments, few of these are concerned with product design. In fact there are only two regional schools or colleges (the LCC Central School of Arts and Crafts, and the College of Art and Crafts, Birmingham) and one national college (the Royal College of Art) which have product design departments large enough and sufficiently well established to merit detailed study in this article. Other departments which should be mentioned are those at Glasgow School of Art (which is growing and has produced seven qualif designers since 1954), Leicester College of Art (wh has had few students) and the College of Art Industrial Design, Newcastle-upon-Tyne (which beg only last year and thus has so far produced no gradu designer).

Three schools concerned

Of the three major departments that at the Cent School is perhaps the most firmly established, since has developed continuously since the war with interruption and has only now reached a stage wh there are more applicants than the department is a to handle. As at Birmingham students prepare for t Ministry of Education's National Diploma in Des (NDD) taken at the end of the third year, but the d partment also has its own internal diploma. At Bi mingham the course has also been established for ma years (in fact since before the war). The Departme of Industrial Design and Draughtsmanship, as it called, also includes furniture, interior design a architectural metalwork, as well as product design. T appointment last September of a new head of the d partment with ideas which differ considerably fro those of his predecessor, suggests however that we m see considerable changes in the next few years. T work illustrated on pages 36 – 38 must therefore b regarded as representative of the old regime. Studen with NDD from both these departments (and c course from other art schools) are eligible to compe for entry to the Royal College of Art, though no pr duct design student from the Central School has, i fact, done so.

The Department of Industrial Design (Engineerin at the Royal College of Art aims largely to provi post-graduate training, though analysis of the table o page 40 will show the existence of a one-year cou for students from industry and a four-year course f students direct from school. In addition to the fou year course, two-year and three-year courses are pro vided which lead to the diploma Des RCA. As i other design departments of the college this diploma awarded only after the student, at the end of his cour has spent nine months in industry. The departme has been in existence since 1953, and the present he has been in charge only two years. Although we equipped, it has only recently begun to formulate policy of its own, which in many respects differs fro those of the Central School and Birmingham.

As most instructors in the departments would readi agree the weak link in the chain is the relationship wi industry. Other design departments, which have be operating for many years, have built up relationship with their respective industries (perhaps not always close as would be desirable) which enable them t estimate fairly accurately what the requirements those industries are. The textile and furniture indu tries for example can confidently judge how ma designers they can absorb over a certain period. Th can also specify the technical requirements and limit tions within which the designer must work.

In the field of product design similar relationships have been difficult to achieve – partly because the departments have not been in existence long enough, partly because the requirements within the general field vary enormously from industry to industry, and partly because industry itself, with a few exceptions, is only beginning to realise that the design of its products is going to become increasingly important in the expanding markets of the future.

To a very large extent it is therefore up to the schools themselves to provide what courses they consider to be most suitable. Of the three departments, only Birmingham has an advisory committee made up of representatives of trades' and manufacturers' associations. But, while such committees can be valuable in creating direct links with local industries, it is doubtful if they have much influence on the wider issues of educational policy. More important is the control exercised by the Ministry of Education and the Regional Advisory Councils for Higher Technological Education.

Shaping educational policy

Broadly the responsibility for forecasting the needs of advanced technical education, and the co-ordination of courses available, rests with the Regional Advisory Councils for Higher Technological Education. These councils (there are 14 in the UK) are composed of representatives of the local education authorities, of the technical and art schools and colleges, and of industry, and they advise the local education authorities on the requirements in their areas so that the necessary provisions can be made. As long ago as 1953 the London and home counties sub-committee on Design for the Light Engineering Industries made broad recommendations which drew attention to the growing opportunities in industry for the trained product designer, but at the same time recognised the difficulty of making known these opportunities to students contemplating a career in art and design or in engineering. While recommending the full time courses in product design at the Royal College and the Central School, the committee also suggested that more attention could be given to aesthetics in engineering courses by special lectures and by suitable exercises in design.

A certain amount of progress along these lines has already been made, both in educational establishments and within industry itself – such as the part time courses for engineering designers at art schools in Salford, Liverpool and Wolverhampton, as well as the special short courses at the Royal College and the Central School, and the successful training schemes for drawing office apprentices in the AEI group of companies (DESIGN May 1954 page 34). Such courses will undoubtedly be useful in supplementing the full time training of product designers with which we are primarily concerned here.

Approving courses and setting examinations

More direct control is exercised through the Ministry of Education. The Ministry is responsible for approving the courses which are offered, and in its rationalisation policy of recent years has shown itself aware of the danger, particularly in the more technical aspects of design, of having too many individual courses with inadequate staff and facilities to ensure a high standard of training. Detailed policy for art and design education is a matter for local education authorities in consultation with the Ministry for examinations. New proposals were recently put forward by the Ministry's National Advisory Committee on Art examinations and details will be discussed later in this article.

In many ways the constitution of this committee points to the Ministry's dilemma in dealing with a subject such as product design. With representatives of many societies, associations and institutions, it has in fact no representative appointed by industry. However, Ernest Race, the furniture designer, was appointed by the CoID and A. B. Read, director of design, The Carter Group of Companies, by the Ministry. Thus in making its own estimate of industry's requirements, the Ministry must turn back on itself and its educationist advisers, or on the schools themselves. It would prefer to rely on information compiled by an outside body such as the Federation of British Industries or the CoID, but though serious attention is now being given to this problem, no facilities exist for the detailed research which would provide reliable information.

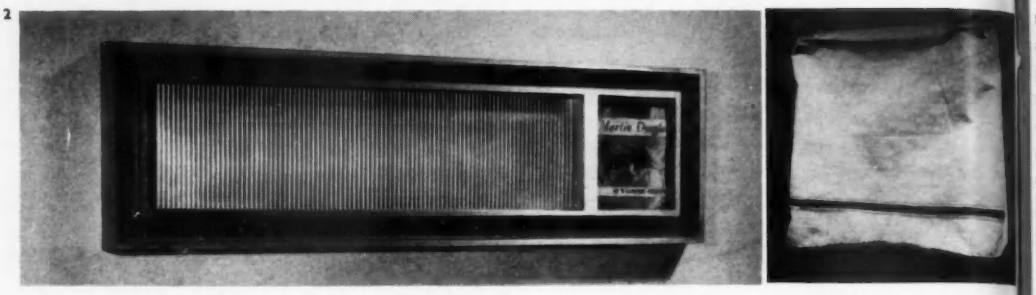
This dilemma is only one aspect of the wider problem with which the Ministry is burdened – the problem of finding itself, all too unwillingly, the arbiter in matters of such a delicate and controversial nature as art and design. This is the more so since these subjects, alone among all others in the field of advanced education, are not examined by the appropriate professional association (it is unlikely that there could ever be one for the fine arts) and are thus left to the Ministry to deal with. It is largely for this reason that the advisory committee recommends the gradual elimination of the national examination (NDD) and the transfer to individual schools of the power to award diplomas.

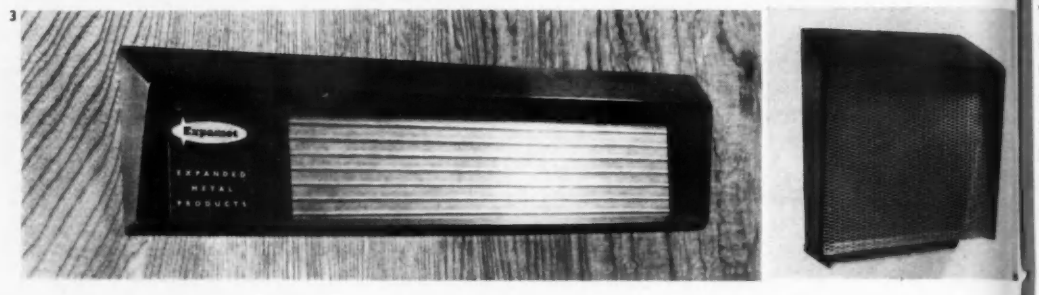
Examinations for the product designer

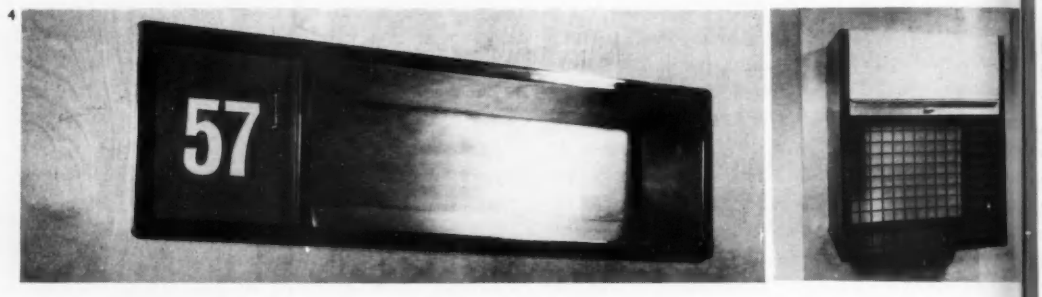
In spite of the proposed changes in the examination system, study for the NDD is likely to remain the chief objective of the student in regional and local art schools at least for a year or two. What do these examinations consist of and how are they run?

To begin with the papers are set and marked by judging panels appointed by the Ministry. The same panel is responsible for judging all work of a three dimensional nature, including such widely differing subjects as book binding, sculpture, stained glass, theatre design, interior decoration and industrial (product) design, though specialist assessors are called in for individual subjects. The 1957 panel for three dimensional design consisted of A. B. Read (chief assessor); Professor R. Y. Goodden, School of Silversmithing and Jewellery, Royal College of Art, A. Machin, tutor, School of Ceramics, Royal College of Art; with K. Brayshaw, head of the School of Industrial Design, Regional College of Art Manchester, and W. L. Stevenson, principal, Liverpool College of Art,

Training product designers







N D D examinations

These four letterboxes are examples of work carried out for the 1957 N D D examination in industrial design. An alternative subject was a portable electric fire. Students were asked to prepare "perspective sketches, scale drawings and full-size details, full specification of methods of production, materials and finishes and of assembly, as well as costing". The time allowed for this part of the test was 20 hours. The full-size models (with production drawings and details) were made during the supplementary period. The full question was as follows: "Design a letterbox suitable for use on entrance doors or surrounding architraves of offices, shops or other commercial premises. The newly appointed Postmaster-General has recently had personal experience of the inadequacy of many of the letterboxes now in use and has drawn attention to the consequent irritation to the postman and delay in delivery of mail.

"The letterbox must be capable of receiving large letters and bulky circulars and printed matter. The opening needs to be 12 inches × 3 inches and provision should be made for fairly heavy deliveries of mail. Provision should be made in the design for fixing in doors or walls varying from two to nine inches in thickness and the letterbox should be reasonably thief proof and inexpensive".

The report by the assessors makes these comments: "In many cases essential and obvious practical needs were ill-considered and too much attention had been given to visual form and colour unrelated to purpose and use.

. . . the assessors had the impression that many candidates did not approach the examination with open minds and complicated their design solutions with preconceived ideas and forms quite unconnected with the problems with which they were dealing." The report shows that of 21 candidates 16 passed. The illustrations show both the outside letterplate as well as the inside box. The designers (all from the Central School) are 1 W. Harbour. 2 A. Wolfenden. 3 H. E. Toomey. 4 C. M. Fetherstonhaugh.

Photographs by Sam Lambert

as teacher assessors. No additional specialist was called in for the product design section.

An example of a typical question from the 1957 examination is reproduced opposite with some of the designs that were actually made in the supplementary period. The tests are marked independently by the school staff and the final result is a synthesis of both the school's and the panel's markings. On the whole the schools themselves are satisfied that both the questions and the markings are fair, though 20 hours for the main part of the test may appear unenviable restriction on the full exploration of the subject. Investigations might show that industry would be less easily satisfied. One large manufacturer of a wide range of kitchen equipment wrote to DESIGN to say that in his opinion the NDD in product design "is hopelessly unrelated to modern design for mass production".

Professional practice and bursary awards

The one professional association that exists for designers, the Society of Industrial Artists, has considered for a number of years the possibility of associating itself more closely with the examination system. After discussions with the regional art school principals the proposal is to recognise the diplomas of schools whose courses have been approved by the society. These diploma holders will then be exempted from submitting work to the society for Licentiateship, providing they have also passed an examination in professional practice set by the society.

This represents an early step in the society's progress towards the ultimate goal of setting up its own professional examination for students of design, and thus of raising the status of the profession to a level equivalent to that of architecture or engineering. However, at the present time, administrative costs would be too high to be borne by its comparatively small membership, and the society is anxious that the high standard required among its members should not be lowered in the interest of increasing its membership. The eventual establishment of such a professional examination will go a long way to foster a more widespread recognition in industry of the design profession. The NDD is little known and less respected by industry as a mark of competence, and designers are not encouraged to use NDD as a suffix to their names. The proposed substitution of internal diplomas, though sensible in many ways, is likely to increase the obscurity of the designer's qualification.

Many schools encourage students to enter for the annual bursary competitions organised by the Royal Society of Arts. These bursaries, which are mostly contributed by industry and are worth £150 each, enable winners to travel and see much of design and life abroad that might otherwise be denied them. The society has been able to award bursaries for electric and gas appliances, solid fuel appliances and lighting fittings for most years since the war. Each section of the competition is judged by a separate panel and two independent representatives of the appropriate trade association are included covering both the manufacturing and retail aspects of the design.

In the product design sections during the period 1950–1958, Birmingham has won the largest number of bursaries (13) with the Central School following closely behind (11). Kingston School of Art has been fairly prominent in the electric lighting fittings section (6), although this school has no NDD course in product design. The Royal College of Art, with a number of travelling scholarships of its own, has not always encouraged students to enter for the bursary competitions and has received only one in the product design sections during this period.

Some other schools also discourage participation in the competitions as the three-week period for the test is considered to be an unjustified interruption of the normal school curriculum, particularly in the final examination year. It seems a great pity that some provision cannot be made by these schools to enable students to enjoy the benefit of these bursaries.

We have established that since the schools and colleges have no real outside guidance on the numbers of designers or the qualities needed by industry, they must provide the type of course they themselves think most suitable. Directly related to the problem of deciding what type of designer you are aiming to produce is the problem of deciding what type of person you are hoping to recruit. In the past there has been much criticism of the way in which students have been recruited to the various departments concerned with training designers for industry. It often happened that the brightest students were encouraged to enter the painting department and only those who failed to make the grade were moved into one of the various design departments.

Students' educational background

Even today the general educational standard of art school students is too low if the designer is to occupy the important place in industry which awaits him in the future. Most principals of art schools now recognise the importance of reasonably high standards of general education in their students, particularly in the product design departments, and in recent years a few grammar and public school pupils with a good basis of mathematics and science have been recruited. The need for pre-entry tests in which the student is required to reach a high standard in these and other subjects is becoming increasingly evident, particularly for the more advanced product design departments such as those at the Royal College and the Central School.

The real difficulty in recruitment for product design departments lies in the newness of the profession itself. Only recently have some of the leading departments been able to recruit the numbers they require. While careers masters in grammar and public schools may confidently predict the pupil's opportunities in science and technology, it is unlikely that many will have heard of product design, and even so would have difficulty in advising a pupil on the prospects of product design as a career. In all probability the pupil

continued on page 43

LCC Central School of Arts and Crafts

Principal: William Johnstone

Department of Industrial Design

The following pages include details of staff, students and courses at the department. The examples of students' work were photographed at an exhibition held at the school in 1957.

Staff

A. E. Halliwell, *head of the Department of Industrial Design and vice-principal of the Central School. He studied at the Royal College of Art, and was a free lance designer before the war. In* 1945 *he was appointed head of the junior art department at Camberwell School of Arts and Crafts and later became senior assistant and acting head of industrial design there. He was appointed to the Central School in* 1947.

L. B. Archer. *Engineering and production technology. Full time lecturer.* 30 *hours.*

R. Adams. *Sculpture.* 10 *hours.*

W. Bruce Brown. *Product design, plastics.* 2½ *hours.*

A. Patchett. *General drawing, presentation drawing and technical illustration.* 15 *hours.*

K. New. *Basic design.* 7½ *hours.*

R. Welch. *Product design and production, stainless steel.* 7½ *hours.*

A. J. Sims. *Wood-working, technology.* 2½ *hours.*

E. Carter. *Creative photography.* 13 *hours.*

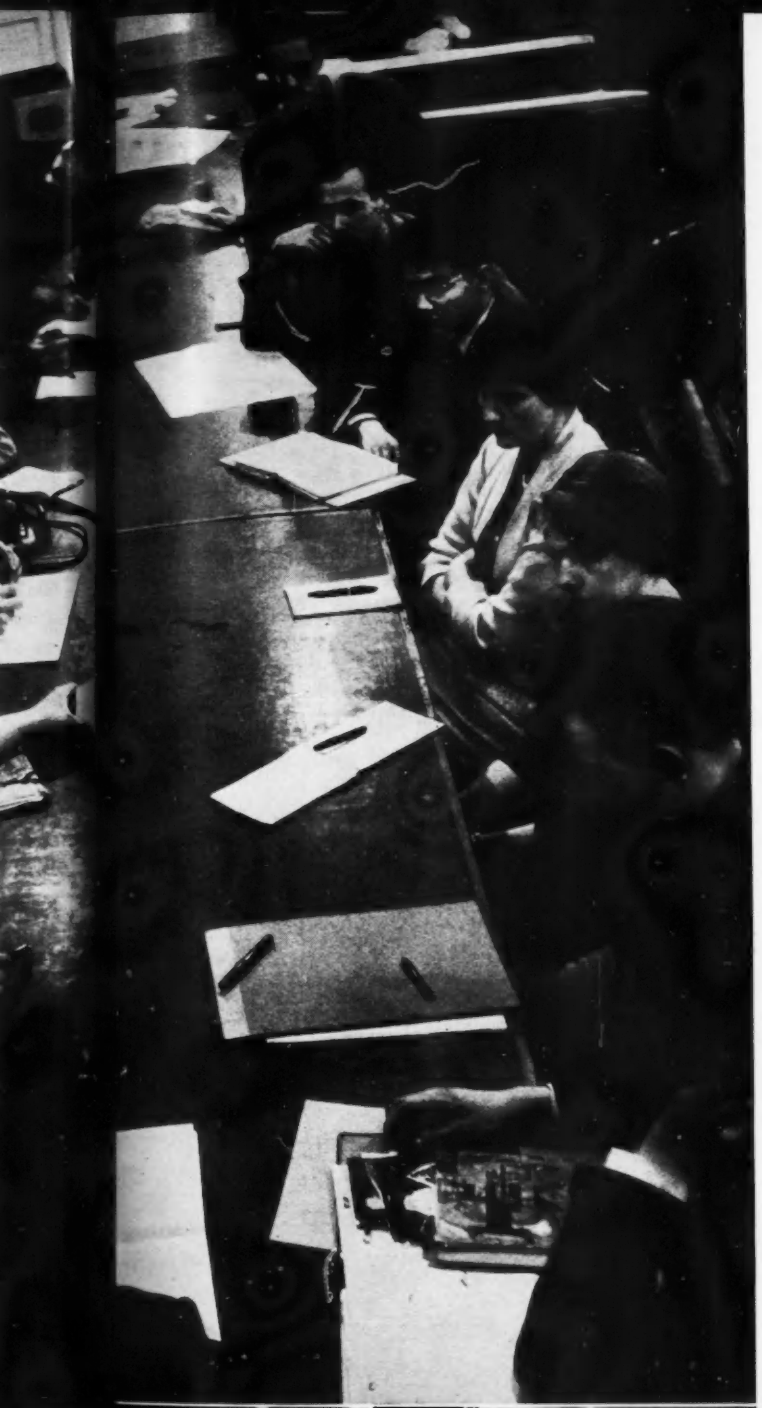
G. Gale. *Photography assistant.* 10 *hours.*

L. J. Harwood. *Product design.* 10 *hours.*

W. Millar. *Advanced design.* 5 *hours.*

D. Scott. *Product design.* 15 *hours.*

H. Burbage. *Model making* 2½ *hours.*



Statement on policy

at the Department of Industrial Design, LCC Central Schoo. of Arts and Crafts, by A. E. Halliwell, head of the department.

In 1947, when I was appointed to the Central School of Arts and Crafts, my first students were ex-service men of mature years who are now leading industrial designers in this country. After the first influx the average age of incoming students gradually dropped, and consisted of students with intermediate certificates from art schools and young men with workshop experience. The intake each year was very small, sometimes six or eight students, sometimes only three or four.

However, The Ministry of Education soon recognised the course, the Royal Society of Arts bursary competitions were being won regularly, and a further recognition came when the Institution of Engineering Designers approved of our standard of engineering draughtsmanship by acknowledging the NDD, when obtained by a student at the Central School's Department of Industrial Design, as an exempting qualification for admission to graduateship of the institution.

Since then the nature of the typical intake has changed considerably. In addition to suitably gifted students with the NDD or intermediate certificates in art, we have been taking on students with intermediate or national certificates in engineering. At the same time, public school and grammar school boys and girls with GCE in English, science (preferably physics), mathematics and /or art (having one or more of these subjects at advanced level), are also being admitted. The grammar and public school boys have proved that their intelligence and background enables them to make rapid progress, and absorb their training more readily than did the earlier type of student entering at intermediate level from an art school.

I believe that success in the future depends upon constant experiment, and continuous improvement. One improvement which I would like to introduce is an extension of the course from three to four years. A fourth year would enable me to devote more time to instruction in painting and drawing in the first year and to deepen and sharpen the technological studies. A few additional subjects, such as management, market research, applied psychology (ergonomics), and a broad background of liberal or cultural studies would be added in the second and third years. Much of the success which has been achieved is due to the policy of staffing the school mainly with part time instructors who are professionally practising the subjects which they teach. The attitude of both staff and students towards machine shop work is intensely practical. All students undertake a minimum of seven and a half hours workshop practice per week throughout their three-year course. They are expected to be familiar with all the modern methods of production and to be competent in the operation of all the standard machine tools and processes including oxy-acetylene and arc welding. They produce full size working prototypes of products which they have designed.

I hope to extend the co-operation already existing between the department and industrial organisations, and to have more frequent opportunities for engaging post-advanced students in specific design research and development projects, under the joint direction of my teaching staff and the firms concerned.

continued

Students at work in the department. The large picture shows a progress meeting among students engaged on a second year group project described on page 43. *Photographs by John Garner*

LCC Central School of Arts and Crafts, Department of Industrial Design

Course

Three-year course leading to NDD. The periods are given in hours per week unless otherwise stated

FIRST YEAR

Engineering draughtsmanship: including drawing office organisation and procedure: 5 hours.
Comprehension and expression: the development of the students' powers of oral, literary and graphic communication. Six 2-hour periods per year.
Applied logic and scientific method: designed to encourage students to think rationally and observe critically. Six 2-hour periods per year.
History of art: 1 hour.
Engineering workshop practice: lectures, demonstrations and practical work at Northampton Polytechnic (Department of Engineering Production): 6 hours.
Basic design: experimental exercises to explore the possibilities of line, shape, mass, colour, tone and texture in a variety of materials. Also visits to exhibitions and places of interest: 5 hours.
Modelling and sculpture: involving work in a wide variety of materials: 5 hours.
General drawing: to develop ability later required in the preparation of presentation drawings. 5 hours per week for half the term.
Stainless steel: simple projects, history and research into uses. 5 hours per week for half the term.
Creative photography: experimental use of photographic processes as a new field of expression. 2½ hours.
Creative machine setting: to discover possibilities of various types of machine (see illustration 2, below): 2½ hours.
Product design: a problem is given every three weeks. The best designs are made up by the students: 2½ hours.
Woodworkshop technology: the study of the use of various types of woodworking machines and the construction of simple articles: 2½ hours.

SECOND YEAR

Product design: more advanced work on projects up to prototype stage: 7½ hours.
Production technology: study of manufacturing methods used in industry with demonstrations and films: 3 hours.
Production project: design and manufacture of a product by a team of students: 2 hours.
Design: exercises in basic design carried out in the first year continue with more advanced projects: 5 hours.
Presentation drawing: study of techniques of presentation including lettering: 6 hours.
Plastics: study of raw materials, moulding techniques, and manufacture of finished articles; at Borough Polytechnic: 2½ hours.
Workshop production: an extension of the first year study of workshop technology. Prototypes produced: 2 hours.
Design office practice: study of engineering draughtsmanship and drawing office organisation to an advanced level: 2½ hours.
Product design (plastics): development from theory to the practical design of simple objects: 2½ hours.
Photography: finding uses for the knowledge gained during the first year: 2½ hours.
Model making: highly finished models to scale are produced: 2½ hours.
Product design (stainless steel): an alternative to model making. To be attended by arrangement: 2½ hours.

THIRD YEAR

During this year students prepare for the NDD as well as the Central School Diploma. Students also prepare a thesis on some aspect of industrial design which is required for these examinations.
Product design: advanced problems are undertaken and research is carried out into industrial projects: 13 hours.
Engineering technology: study of the loads and forces at work in components and structures and their effects in different materials: 2 hours.
Advanced design: a continuation of the basic design and design courses of the first and second years: 7½ hours.
Presentation: final clients' drawings and technical illustrations of prototypes under development are produced: 7½ hours.
Prototype construction: 5 hours.

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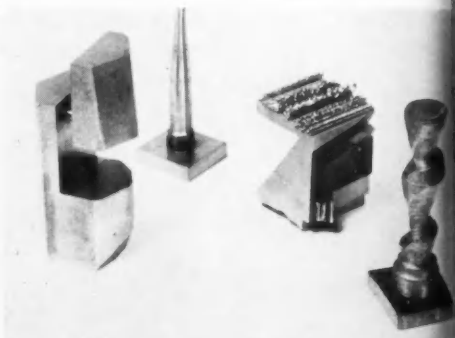

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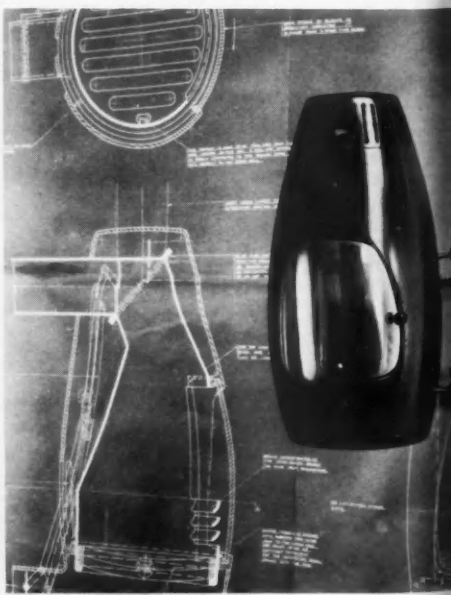


Student origins

Year	Total	School of art	Grammar & public school	University, tech. college, arch. school	Industry	Abroad	Others, including private school
1953	8	1	2	1*	–	2	2
1954	10	3	5	–	–	2	–
1955	7	2	2	–	–	3	–
1956	15	2	5	2	–	4	2
1957	13	4(1*)	5(2*)	–	1	3(1*)	–

*Students with some previous industrial experience

Students qualifying

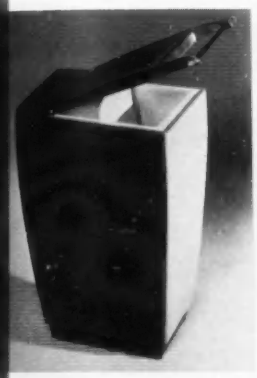
Full time students who qualified in the Industrial Design Department during the past five years are given in the table below. Passes in both the N D D and the Central School Diploma are given. In this period a total of 35 N D D's were awarded included 13 for part time students. The years of entry 1953 and 1954 may be compared with the table above.

Year of entry	Year qualifying	Total intake	Passed C.S. Diploma	Passed N D D	Failed both	Did not complete course
1950	1953	6	7(1†)	5	–	–
1951	1954	6	5(1†)	5	1	–
1952	1955	2*	1†	1†	–	–
1953	1956	8*	4	3	–	2
1954	1957	10*	9(2‡)	7	–	2

**Including some students taking examinations in other years.*
† These students joined the course a year later and qualified in two years.
‡ These students joined earlier, one in 1952, the other in 1953.

Starting salaries

Among the five students who qualified in 1954 with both the N D D and the Central School Diploma, starting salaries ranged from £450–£750. Present salaries are said to range from £850–£1,200.



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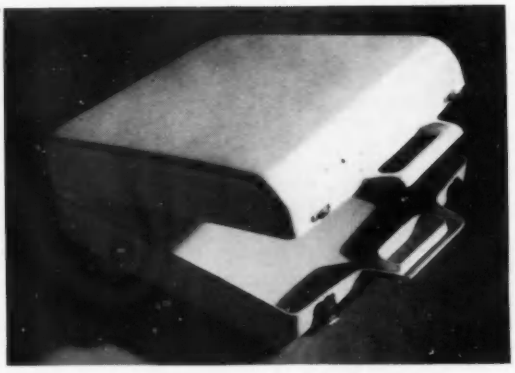

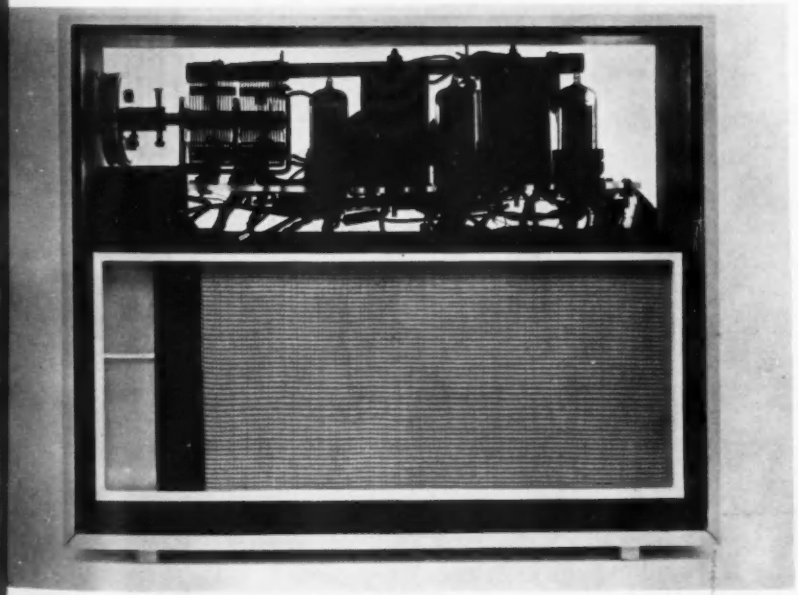

Examples of work 1957

1 Group of tea strainers designed and made by first year students in the class for stainless steel.

2 Examples of creative machine setting, in which the student is asked to set up a machine tool for a prescribed combination of automatic feeds and then to discover the variety of shapes and surface textures by varying the speeds of the various elements of the tool. This is the opposite of machine sculpture in which the end product is described and the means left to the student's initiative. Part of the first-year course.

3 Model of a redesigned oil heater. The dimensions are based on existing data. DESIGNER *J. Stewart, third year.*

4 Project for a petrol pump. A simple aluminium cylinder housing the normal pump mechanism is backed by a glass fibre shape which would be fixed separately to the ground. The whole object is to give greater display value to pump sites. The flow indicator is larger than usual and consists of a series of rotating coloured blades. DESIGNER *A. Wolfenden, third year.*

5 Model and general arrangement drawing of a free standing solid fuel convector radiator. Designed with BCURA principles in mind, this heater has a smooth air flow shape for even burning, coupled air inlet and outlet and a restricted throat. It can also be fitted with a vertical flue. DESIGNER *W. Harbour, third year.*

6 Scale model of a washing machine. The action is one of compressing and releasing a flexible tub to give the necessary agitation. The wringer is permanently mounted on the lid and folds inside the washer. DESIGNER *W. Harbour, third year.*

7 A prototype case formed from polystyrene sheet by the vacuum forming process. This work was carried out in the laboratories of Monsanto Chemicals Ltd, which also supplied advice and assistance. DESIGNER *J. Stewart, second year.*

8 Working prototype of a radio set. The case is wood, cellulosed stone colour, and the speaker covering is in red fabric. The dark green 'Perspex' panel above the speaker fabric is designed to allow the internally lit electrical parts to show when the set is switched on. DESIGNER *J. Saunders, second year.*

College of Art and Crafts, Birmingham

Principal: Meredith W. Hawes

School of Industrial Design

Less information can be given about the course available at the product design department, Birmingham, because it is in the process of re-organisation following the appointment of the new head last September. The examples of students' work on page 38 are taken from the college exhibition held last autumn.

Staff

N. J. Slutzki, *head of the School of Industrial Design took over the first product design metal workshop at the Bauhaus in 1919. Afterwards for seven years he practised as a lighting architect in Hamburg, until 1932 when he left Germany and once more took up teaching, this time engineering and practical mathematics at Dartington Hall. In 1946 he joined the staff of the Central School as a part time teacher. His present appointment follows seven years as a full time tutor in the Department of Wood, Metals and Plastics at the Royal College of Art.*

B. P. Arnold *First year basic design. 14 hours.*

J. W. E. Hulme *Prototype production. 10 hours.*

H. Potter *Second year product design. 6 hours.*

J. Barnes. *Second and third year product design. 6 hour..*

F. McNally *Assistant for first year course. Also second year product design. 22 hours.*

F. Lewis *Presentation. 4 hours.*

C. S. Toon *Assistant to Mr Hulme. 10 hours.*

Statement on policy

at the School of Industrial Design, College of Art and Crafts, Birmingham, by N. J. Slutzki, head of the school.

The School of Industrial Design of the Birmingham College of Art comprises three main sections, namely, product design, furniture and interior design. In the current session there are 78 students enrolled in the school. Of these, 36 students are taking the full time day course and 42 students are attending part time day and evening classes, many of whom are attending on a day release arrangement from industry.

Unlike other schools of industrial design with which I have been connected, there would appear to be no shortage of students in Birmingham, and this feature presents a great opportunity for establishing a forward looking policy. It is necessary, of course, to accept the academic attainments of the present students, but in the future I hope it will be possible to recruit students who are above average in their intellectual attainments.

My aim is primarily to establish a balance between creative design, product engineering, and other technical aspects of production which are vital to the designer if he is to secure and maintain his status in industry. In the first year, students are introduced to activities which are concerned with aesthetics and they also study the fundamentals of presentation. In the second and subsequent years their training is concerned with designing products, from the drawing board to the prototype at production level.

The average length of the full time course is either three or four years. During these periods my aim is to intensify and unify the training by having a clear identification of the objectives and a carefully planned syllabus leading to these objectives. My efforts and those of my staff will also be directed to employing and developing the natural gifts of each individual student.

The syllabus, and the staff who implement it, must form a completely integrated unit and the training should follow the syllabus so closely that it forms almost a carbon copy of it. At the Birmingham College of Art I found a number of able and experienced teachers in the department and this should enable me to complete the staffing more easily. In selecting staff my preference would be towards a man who has had practical experience in industry. Such a teacher would, it is hoped, still retain his integrity and personal approach to design and his teaching should be closely identified with his own development as an industrial designer.

A close relationship between the School of Industrial Design and industry is essential. I hope, with the continued assistance and co-operation from industry, to integrate this works experience more closely with the students training in the college, and by defining its contribution more clearly, to gain the maximum benefit to the students and to industry. It must be remembered, however, that there are fundamental differences in the problems faced by designers in industry and by students. A student cannot be confronted with all facts and problems of a practising designer.

xercises in basic design using aster, and work in the drawing ffice form an essential counterpart the practical experience gained in e workshops. *Photographs by hn Adams.*

Student origins

Year	Total*	Sec. modern, junior art, junior tech. school	School of art	Grammar & public school	University, tech. college arch. school	Industry†	Abroad	Others, including private school
1953	28	10	–	3	–	10	–	5
1954	24	7	–	7	–	9	–	1
1955	29	7	–	10	–	11	–	1
1956	29	8	–	7	–	13	–	1
1957	34	9	–	7	–	16	–	2

**These figures include certain students who went on to study interior design after completing the first year basic course.*
†These figures represent part time students from industry.

Students qualifying

Full time students who obtained NDD after three or four years' training since 1953.

Year of entry	Year qualifying	Total entered for NDD	Passed NDD	Failed	Did not complete course
1949	1953	2	2	–	–
1950	1954	6	6(3*)	–	–
1951	1955	5	2(2*)	2	1
1952	1956	7	5(4*)	1	1
1953	1957	13	8(5*)	5	–

**These students joined the course a year later and took the NDD examination in three years.*

continued ▶

Starting salaries

Starting salaries among students leaving in 1954 range from £400–£750. The highest starting salary among this group was obtained by a student who spent three further years of training at the Royal College of Art.

College of Art
and Crafts
Birmingham,
School of
Industrial Design

Examples of work 1957

1 Working model of a letterplate in satin finished brass. The flap is weight balanced and stormproof. DESIGNER *K. Sadler, fourth year.*

2, 3 and **4** Examples of first year basic design exercises in plaster, deriving inspiration from natural growth.

5 Models of two telephones designed to be moulded in phenol formaldehyde. DESIGNERS *left, A. E. Hill, second year; right, R. E. Morris, third year.*

6 Model of a two-pint electric kettle, designed to be moulded in halves from high density polythene. DESIGNER *A. E. Hill, third year.*

7 This clock was designed and the model produced for the N D D examination 1957 (Metalwork). It is finished in chrome, grey and black, and was designed as a pressing with cast aluminium base, finished black. DESIGNER *K. Baker, third year.*

8 Working prototype of a pendant lighting fitting in brass and walnut with two opal glass shades. DESIGNER *P. King, second year.*

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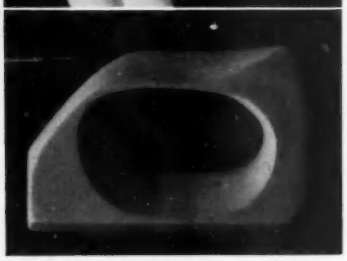
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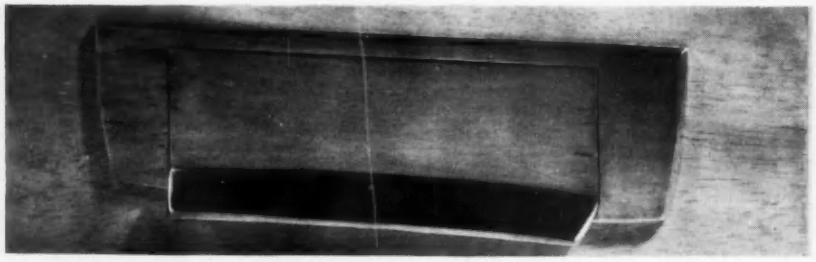
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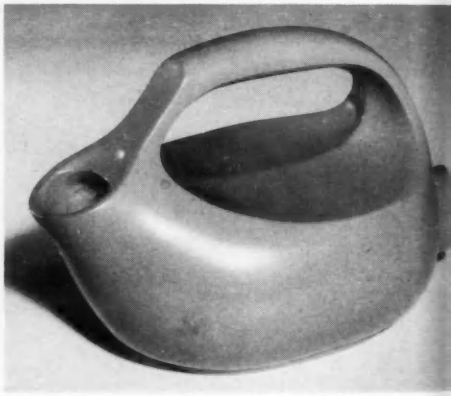
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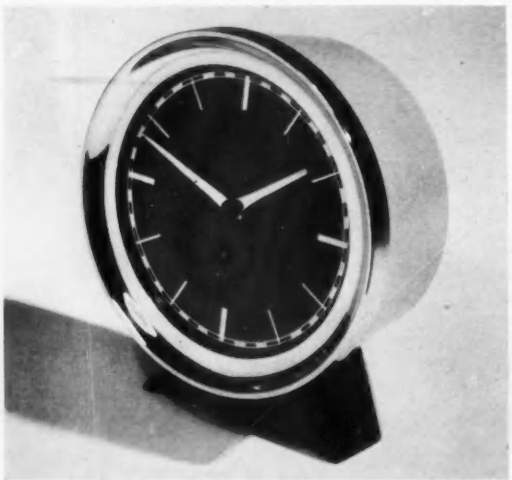
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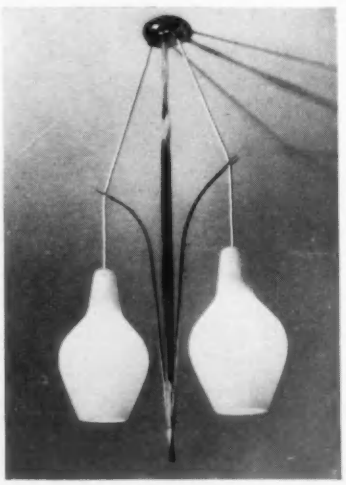
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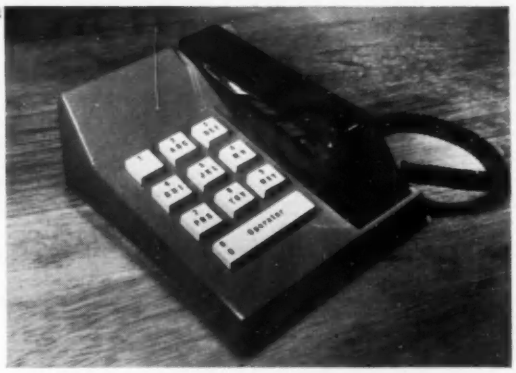

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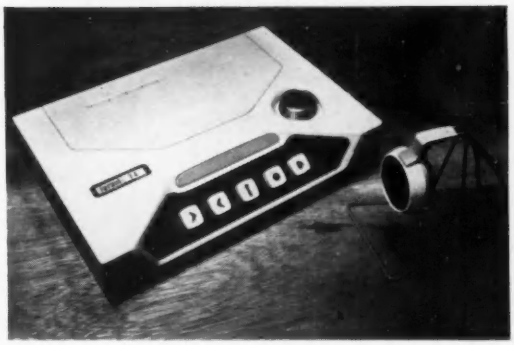


4

Glasgow School of Art

Director: Douglas P. Bliss. Teacher in charge, Department of Industrial Design: James Goodchild

This department (formed 12 years ago) is the most firmly established of the three smaller departments, mentioned on page 28, with courses for product design. The intake of students per year since 1952 has varied from one to four and in this period seven have qualified with D A(Glas) – one of the four diplomas in art obtainable from Scottish art schools recognised by the Scottish Education Department. The students have varying backgrounds and all must complete a two-year general course (equivalent to intermediate standard) before going on to the two-year diploma course. The department is also starting part time courses for those possessing Ordinary National Certificate in Engineering. With the collaboration of the West of Scotland Committee for Technical Education the full time course has now been revised with more emphasis, during the penultimate year, on technical subjects. The majority of these extra mural subjects, which include timber and woodworking processes, metals technology and production processes, materials and production processes in plastics, and engineering drawing, are held in association with the Royal College of Science and Technology and the Stow College of Engineering. During this year the emphasis is on discussion and analysis of design principles; production of finished work is largely confined to the final year. During their training students are required to complete three short periods of employment in local factories.

1 Chair in glass fibre designed for use in coffee bars and restaurants. DESIGNER *B. Burns, fourth year.*

2 Model of telephone with push button dialling. DESIGNER *B. Burns, fourth year.*

3 Model of office tape recorder. DESIGNER *A. N. Hill* (1954–56).

4 Model of oil fired heater. DESIGNER *J. Shields* (1954–56).

Scottish conference

A lunch time conference among industrialists, educationists and representatives of the CoI D Scottish Committee was held recently to discuss the increasing demand for industrial designers. The new part time course for engineers at the Glasgow school was particularly welcomed and manufacturers were asked to suggest ways in which the course could be improved, and also to co-operate in giving young designers practical experience in industry. The group shown here during the conference consists of, left to right: Thomas Coughtrie, chairman and managing director, The Belmos Co Ltd, Sir Robert A. Maclean, then chairman, CoI D Scottish Committee, and his successor Sir Charles Connell, chairman, Charles Connell & Co Ltd.

Royal College of Art

Principal: Robin Darwin

Department of Industrial Design (Engineering)

The following four pages include details of staff, students and courses at the department. Illustrations of students' work were photographed at a private exhibition held at the College in 1957.

Staff

F. C. Ashford, *reader of the department, has been a free lance industrial designer since before the war, and for a time was a member of Raymond Loewy's design office in London. During the war, as Lt Commander, he carried out experimental design and development work, and from 1947–56 linked with another designer to form Scott-Ashford Associates Ltd. He joined the Royal College of Art in a part time capacity in 1955 and a year later took up his present full time appointment. Author of 'Designing for Industry', published in 1955.*

D. A. Bowen *Part time tutor in basic design. 14 hours*

J. V. Sharp *Part time tutor in product design. 14 hours*

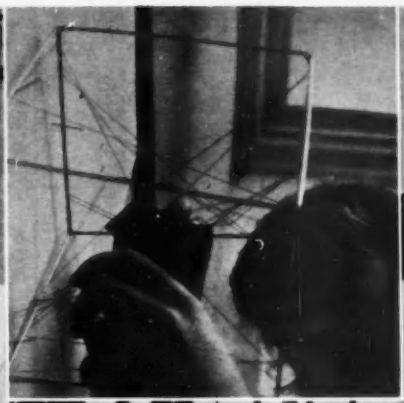
Specialist lectures are given by the following (subjects are in brackets):

S. Kadleigh *Reader in architecture, Royal College of Art*
J. G. Tweeddale *Royal School of Mines, Imperial College (Metallurgy)*
R. H. Elvery *Department of Civil and Municipal Engineering, University College (Strength of materials)*
W. F. Floyd *Middlesex Hospital Medical School (Ergonomics)*
R. Helliwell *head of Department of Production Engineering, Northampton College of Advanced Technology, or a member of his staff (Workshop technology and practice)*
J. E. Garside *principal, Borough Polytechnic (Metal surface treatments and finishes)*
W. Abbott *director of education, Federation of British Industries (Tolerances and quality control)*
M. O. Rowlands *chief designer, E. K. Cole Ltd (Design for plastics)*
F. H. Cotton *head of the National College of Rubber Technology, or a member of his staff (Plastics technology)*
E. W. Shaw *National College for Heating, Ventilating, Refrigeration and Fan Engineering (Heating)*
B. Lawrence *National College for Heating, Ventilating, Refrigeration and Fan Engineering (Ventilation)*
F. Cheetham *Ealing Technical College (Costing and estimating)*
P. Honey *Electrical Development Association (Electrical design)*

Courses

Subjects	4-year diploma course	3-year diploma course	2-year diploma course	1-year non-diploma course
Basic design Life & freehand drawing History of industrial design Sociological aspects of design	Preliminary Year			
Aesthetics Architecture Lettering Presentation drawing Engineering drawing Mathematics English Metallurgy		1st year	1st year subjects selected according to student's category	Subjects selected according to requirements of each student
Workshop technology & practice Strength of materials Metal surface treatments & finishes Design for plastics Plastics technology Structural plastics Electrical design Heating & ventilating General topics		2nd year		
Ergonomics Costing & estimating Market research Elementary production engineering		3rd year	2nd year	

F. C. Ashford has added this note on the courses: "The system of training at the college through tutorials, lectures by specialists and individual study resembles that of a university rather than a school with its rigid timetable and pattern of formal instruction. For this reason cold analysis of lectures and formal practical sessions, shown in the table above, fails to reveal an important aspect of the training – the development of individual capacity and self discipline. The students have access to the excellent college library and to guidance in their studies from the reader-elect in general studies, Basil Taylor. A course of general studies is at present under consideration and will be concerned with the social sciences, the natural sciences and the humanities, and will be continuous throughout the three years of the students' training. The lectures on mathematics, temporarily discontinued through financial stringency, are to be re-introduced, and will be integrated closely with geometry, trigonometry, applied mechanics and numerical methods of analysis."



Statement on policy

at the Department of Industrial Design (Engineering), Royal College of Art, by F. C. Ashford, reader *of the department.*

The advantage of carrying on engineering design training in colleges and schools of art is that, through close association of the students with painters, sculptors and those working in the various fields of applied design, a sensible direction of creative purpose is maintained. This would be lost in training given in technical isolation and lead to the sterility inherent in such theories that aesthetic quality must of necessity arise from objective consideration of function, or that good engineering practice must of necessity produce a good appearance.

The provision of proper conditions for such training demands more than an extension of craft training facilities. It requires, in addition to well equipped machine shops and drawing offices, the introduction of the discipline of exact methods. It also requires the inclusion in the curriculum of technological and liberal studies, without which not only is effective design impossible but also the designer cannot sustain his position among engineers, scientists and others of high technical and academic qualification.

The Royal College of Art provides such conditions in its Department of Industrial Design (Engineering), the aim of which is to train designers who will be capable of rising to the most responsible positions. This implies breadth of vision in addition to technical designing ability, and to secure recruits of the necessary scholastic attainment a course is run for entrants direct from public and grammar schools who must, in addition to revealing a capacity to design, have obtained two A level passes in the GCE, in mathematics, physics, chemistry or biology. This course takes four years, the first of which is devoted to a study of the basic elements of design, the true plastic values of materials and an introduction to the realisation of an aesthetic through machine processes. Thereafter it follows the normal comprehensive three-year course planned for students from art schools.

The policy of training designers to be capable of executive as well as executant functions reflects current trends in industrial and economic affairs, which must affect engineering design practice. It is certain that in future designers will have to manipulate considerably more information than is now customary, and will need to be cognisant of the analytical and research methods from which that information will stem. Unless the designer of the future is a man of true aesthetic sensibility there will be a real danger of design becoming too rationalised and subject to technological virtuosity and expediency.

The college, through selective recruitment and a curriculum devised to gain the utmost benefit from it, is directing its efforts to the task for which it feels itself best suited. This is to train designers capable of maintaining a desirable balance between the highly rational and the irrational and of working at an executive level. Industry has shown that it needs such designers and will need them even more in the future.

▲ The illustrations above and on the opposite page show students in the department's workshop and design studios. While students are encouraged to use the facilities of the workshop for experiments, for model making and to gain knowledge of materials and machine processes, it is not the department's policy to devote time to acquiring the high degree of skill in machining and fabricating necessary for finished prototypes. These prototypes are made by a staff of skilled craftsmen. *Photographs by John Garner.*

continued ▶

Royal College
of Art,
Department of
Industrial Design
(Engineering)

Student origins

Year	Total	School of art	Grammar & public school	University, tech. college, arch. school	Industry	Abroad	Others, including private school
1953	6(2*)	2	–	2	1	–	1
1954	3(1*)	2(1**)	–	–	–	1	–
1955	5(1† 1‡)	3(2**)	–	–	–	2	–
1956	3(1‡)	2(1**)	–	–	–	1	–
1957	10(1‡)	4(1**)	4	–	1	1	–

** These students took the two-year diploma course.*
† This student took the one-year diploma course.
‡ These students took the one-year non-diploma course.
*** Students with N D D in industrial design or light metalwork.*

10 diplomas (DesRCA) have been awarded in the product design department since 1953.
Of these 5 were awarded in wood, metals and plastics (not furniture) during the transition period before the new department was fully established.

Starting salaries

Among the three students who left in 1957, two received starting salaries of £750 per year, and one started at £1,500.

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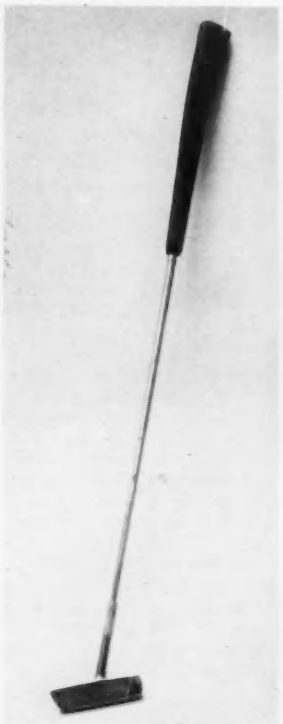

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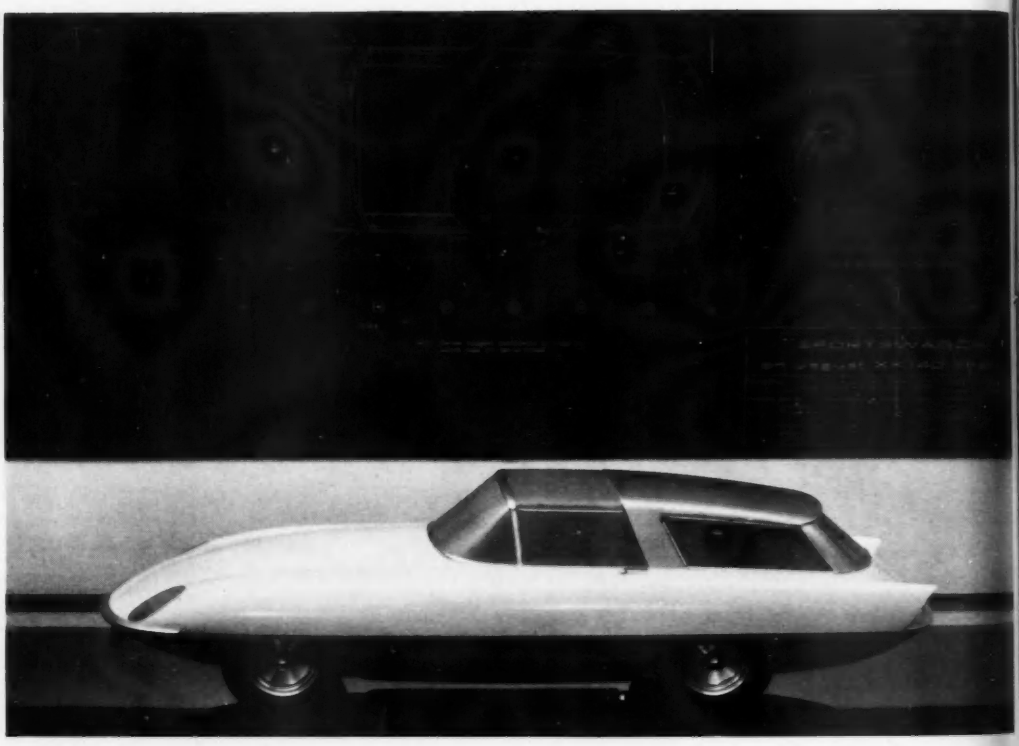

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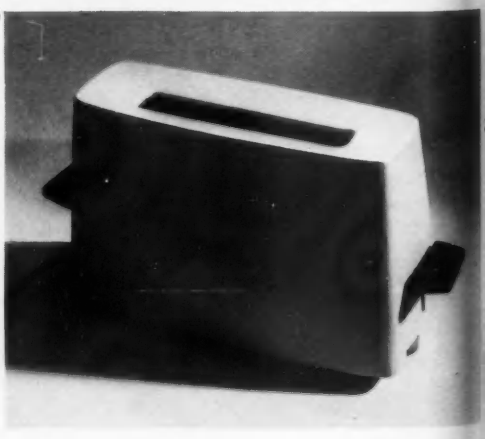
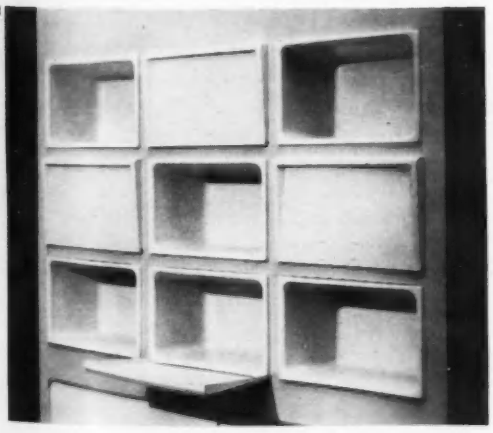


Examples of work 1957

1 Balanced putter with chromium plated brass head and steel shaft with pigskin grip. DESIGNER *F. E. Dudas, second year.*
2 Model of sports car with body designed to suit standard Jaguar XK140 chassis. DESIGNER *Vilhelm Koren, second year.*
3 Model of pillar box. DESIGNER *B. M. Eccleston, third year.*
4 Model of electric wall cooker, comprising oven, grill, infra-red grill with spit, warm chamber, four hotplates, and surface for plug-in appliances. DESIGNER *D. R. Evans, third year.*
5 Model of a single slice automatic electric toaster. It has a glazed ceramic body, moulded plastics base and standard 'pop-up' mechanism. DESIGNER *D. R. Evans, third year.*
6 Model of a litterbin. DESIGNER *D. R. Evans (during first year).*
7 Production prototypes of door handles in anodised aluminium. DESIGNERS *Left, D. R. Evans, third year. Right, B. M. Eccleston, third year.*
8 Wall storage unit in vacuum formed polystyrene sheet. The design is based on a system of standard containers capable of various assemblies. DESIGNER *B. M. Eccleston, third year.*



Training product designers

continued

will hear of product design only after he has already decided to attend an art school, when his leanings towards aesthetics may well imply an inadequate standard in mathematics and the sciences. Thus the danger of the best brains being drawn off into science and technology is a very real one. The booklet on careers for product designers produced by the Royal College of Art for distribution to grammar and public schools, and the setting up of a four-year course for students recruited direct from these schools, is an admirable attempt to correct this tendency. However, to give such a booklet the necessary authority, reliable statistical information on prospects is required, and this at the moment is lacking.

Approaches to design training

It has already been stated that since the war the product design course at the Central School has had the longest *uninterrupted* history of the three leading departments being considered in this article. This steady progress has enabled the school to build on experience and to acquire the specialised staff that is essential. The course is tightly planned giving a sense of urgency to the work and from the outset exercises in design are based on given limitations of technique and cost. The more successful designs are carried through to the production drawing stage and are then made up in prototype form by the students. Perhaps the most original and successful aspects of the work are the group projects carried out by students during their second year. In these projects a team of students works on a design from the inception of the idea right through to the manufacture of a limited production run. Designing, model making, progressing, tool making, costing, purchasing, the preparation of production drawings, the final manufacture of parts and assembly are all carried out by the student team, each member having responsibility for a part of the operation. Case histories of typical projects can be seen in DESIGN October 1954 page 46, and December 1956 page 27.

The product design courses at the Royal College of Art have a slightly different objective and a different approach. Since the courses are largely post-graduate, and include students who have already attained the NDD, less emphasis is given to a concentrated sequence of classes and more to individual tutorials with extra mural lectures ranging over a wide field. There is a greater degree of freedom for the student to pursue his private studies. The aim of the department is largely to prepare designers for a role in industry which is only beginning to become apparent in this country but is already established in American industry – the role of the executive designer or design director, who will be more concerned with planning design policy and long term product development than the immediate requirements of an individual design.

The study during the final year of the implications

Training product designers

of such things as ergonomics and market research, and the efforts to obtain recruits with high educational standards in English, mathematics and the sciences represents the early beginnings in the development of this policy. But it is not yet possible to see if the general educational standard of students in the department is high enough to meet this challenge.

No one can estimate how many designers of this calibre will be needed. Certainly students leaving the department could not expect to obtain such a post for many years and, in the meantime, will obtain much the same type of job as students from the Central School. It must also be admitted that in aiming for higher ideals than the Central School the Royal College's department is working even more in the dark, in that it must rely on its own estimation of a future requirement, rather than its own estimation of a current requirement.

It should be remembered that the department has only been operating under the present head for two years, which is little enough time to implement a policy that has no precedent in this country. The full potentialities undoubtedly rest with the future when increased facilities in a new building, already planned, and the chance to benefit from its own experience, will begin to have their effect. On the other hand the Central School is also hoping for increased facilities as a result of a new building, and is expecting to lengthen the course by a further year so that it can embrace more of the liberal studies. These factors may lead to a stage where the differences of approach in the two departments will be chiefly in matters of detail. In broad policy the differences may be in name only. There is little doubt that a greater co-operation and exchange of ideas between these two London departments, noticeably lacking at the moment, would be mutually beneficial.

Aesthetics and technology in the balance

The approach at Birmingham, as described by the new head of the department, appears to differ fundamentally from that adopted by both the Royal College and the Central School. The differences lie primarily in what is considered to be an appropriate balance of aesthetic and technical matters. While both the Royal College and the Central School are striving for a thorough technical basis for the product designer's training, Birmingham has come down heavily on the side of aesthetics. When interviewed, the head of the department said that in designing an electric kettle, for example, the student will be encouraged first to produce a beautiful kettle. Once he is satisfied with the shape he can then go on to consider such problems as the type of element, the materials and finishes and the way the kettle will be produced.

When the majority of criticisms from industry concern the lack of technical competence in the art school trained product designer, it is extremely doubtful if industry will take kindly to this approach. On the other hand the argument that a student can best learn the technical requirements and limitations of a job once he has joined a firm, rather than pick up what the new head has described as "tit-bits" of technology during his student career may well be valid, and the results of t approach must remain to be seen.

The factor which has dominated this article from t beginning has been the difficulty of estimating the t requirements of industry in the training of the prod designer. In the final section proposals for a realis appraisal of the situation are put forward. In the mea time a limited survey among actual or potential em ployers of product designers was carried out by DESI and is reported here. Altogether 22 manufacturers a six consultant designers were sent questionnaires a of these 16 manufacturers and five designers repli The firms approached varied in size and covered a wi range of manufactured products.

What industry wants

Most of the manufacturers stressed the need for a goo engineering background. For example, a domestic ap pliance manufacturer wrote: "An ideal specificatio might be a full engineering apprenticeship, an engi neering degree and a course in industrial design." A firm making lighting fittings: "My advice to anyon considering a career in product design would b seriously to consider studying engineering (electrical o mechanical) or science (physics or mathematics) o architecture, with a view to achieving Higher National Standard or university degree." Another branch of th same firm: " . . . applicants from art schools lac technical ability and the ability to work in a team . . . Very often applicants from technical schools hav proved superior in this respect." On the other hand, on manufacturer of domestic electrical appliances wrote: " . . . it is no longer the case that only the diehard practical engineer knows all the answers."

Contrasting viewpoints on the degree of artistic ability required were supplied by a manufacturer of products in plastics and another manufacturer of lighting fittings. The plastics manufacturer: " . . . artistic ability, a sense of proportion, form and colour, and draughtsmanship constitute about 90 per cent of his work. I consider that the general training (art school) is very good . . . " The lighting fittings manufacturer: " . . . 70 per cent of our problems concern production, and thus construction. It has been my experience that this approach comes less easily to an art school trained man than to a man who has had works' drawing office training."

One well known firm making washing machines and cleaning equipment compared its experiences with British and American designers: "We have had a number of students from various colleges during the vacation and they have done some excellent design work. Unhappily, their appreciation of the practical side of engineering has not been altogether satisfactory." The firm went on to say: "We have never been to an American designer for advice without an improvement in the engineering of our product."

Two more replies provide serious food for thought. A manufacturer of electric cooking and heating equipment: "I have employed quite recently a man with an industrial design diploma who had been to America to

mprove and widen his knowledge and experience, but I have since had to dispense with his services. The reason for our dissatisfaction was that, in applying his art school training, he had not the basic engineering knowledge to supplement good aesthetic values . . . " The following statement is from a second plastics manufacturer: "One student taking his diploma course in industrial design came to us during his summer vacation. He stayed only three weeks. He tended to 'know everything', was extravagant in the use of materials and was outrageously untidy. Had I interviewed this student beforehand his unkempt appearance would have prevented me from taking him even for a short period."

Among replies from the consultant designers the same criticism of lack of technical ability was common. One well known consultant: "I have recently taken on assistants (from art school) . . . they have little technical ability, their design knowledge is immature, but at least they can draw." Another designer, who also has his own workshop: "I have interviewed about half a dozen designers from different schools and colleges. I also put an advertisement in DESIGN. Such incredibly poor material turned up that I decided to press on by myself for the time being with the help of an existing part time man."

Both the manufacturers and the design consultants stressed the need for good general intelligence and were emphatic on the necessity for realistic training in such matters as costing and sound business practice. None of the manufacturers appeared to recognise the need for the executive designer of the type which the Royal College believes will be necessary in the future.

It must be emphasised that this survey was carried out on a limited scale purely for the purpose of this article. It would be misleading to draw widespread general conclusions from it. What it indicated, however, was that the industries served by the product designer have widely differing requirements. It also suggested that a more thorough exploration might call for a considerable reappraisal of the methods of training at present operating.

Fact-finding researches

The problems discussed in this article have become increasingly apparent to the CoID over recent years. The Record of Designers shows that the demand for product designers is rapidly outstripping the supply. One major problem has been the shortage of suitable recruits for the courses that exist – a problem which is gradually being overcome by the better established departments. But as the courses develop and the number of recruits increases, the supply of teachers with the necessary experience becomes even more difficult. Industry here could play a greater part by releasing designers and engineers as part time teachers. It has already been mentioned that the known prospects for careers in science and technology are drawing off those pupils in grammar and public schools who are likely to be more suited to a career in product design, or ultimately to teach product design, than the average type of pupil recruited by the art schools at present. Perhaps the most difficult problem of all is the lack of adequate communication within the educational system for making information from industry available to the schools as a basis for realistic training.

To find this information the CoID believes that a programme of intensive research is needed if an adequate supply of properly trained industrial designers is to be assured. A pilot enquiry carried out by the CoID to find out what happened to product design graduates of the Central School provided convincing evidence of the value of a wider investigation.

Preliminary enquiry started

The work of such an enquiry would need to be divided broadly into six sections:

1 To establish what prospects there are for young men and women engaged on product design in the light engineering industries.

2 To find out how these prospects may be conveyed to boys and girls (and their teachers and parents) when they are considering possible careers.

3 To decide what form and level of pre-art school training are likely to be of most use to them.

4 To find out what is likely to be expected of the trained designer, industry by industry.

5 To suggest the ways in which training should develop, assuming that, in the light of the enquiry's findings, existing courses could be improved.

6 To find out how an adequate supply of teachers with industrial experience can be assured.

The execution of such a programme would need to be carried out with the full co-operation of industry's representative bodies – including the Federation of British Industries, whose record of interest in all matters relating to the training of designers for industry extends back over nearly 40 years. A paper on the lines of the proposals above has already been submitted by the CoID to the FBI Industrial Art Committee, and as a first step it has been agreed to circulate a questionnaire to selected members of the federation.

Later, this work of investigation could be extended to finding ways in which technicians and draughtsmen (who exert more influence on design standards than is perhaps generally realised) can acquire a greater understanding of matters affecting the design of the products with which they are concerned.

It is significant that American designers and teachers are also becoming aware of the need for a greater exchange of information on the training of designers. The formation last October of IDEA, an association to promote the development and improvement of industrial design education, reveals a desire to define in more exact terms the role which the designer will fill in the future industrial economy of America. The limited enquiry among British manufacturers carried out by DESIGN, confirms the general feeling that the way designers are being trained in this country has certain deficiencies. It is not sufficient to guess and argue about what is right or wrong. Real progress can be made only when the basic facts have been established.

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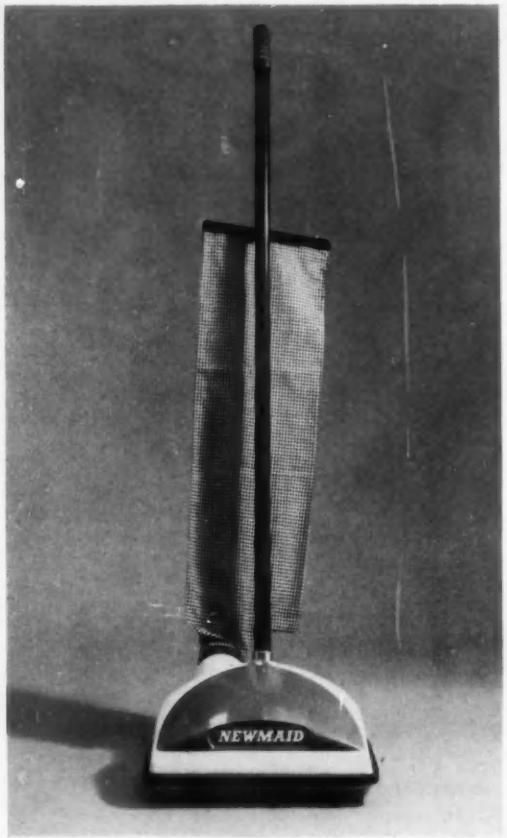

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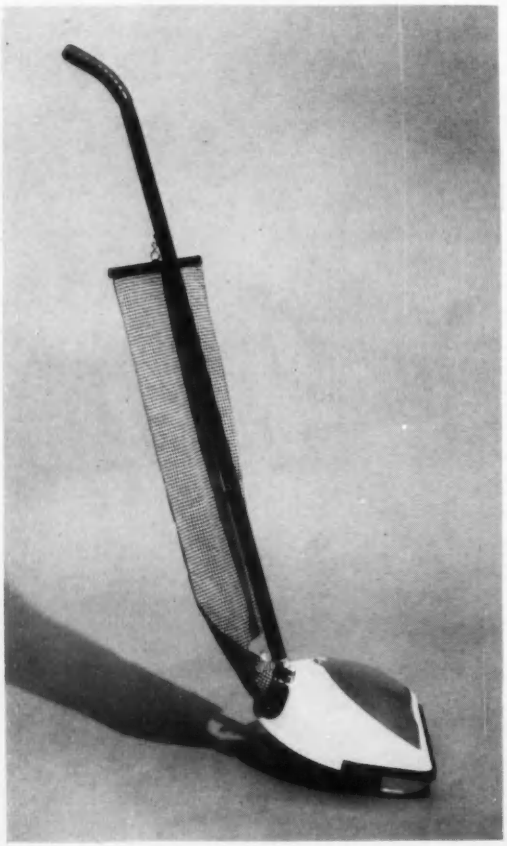

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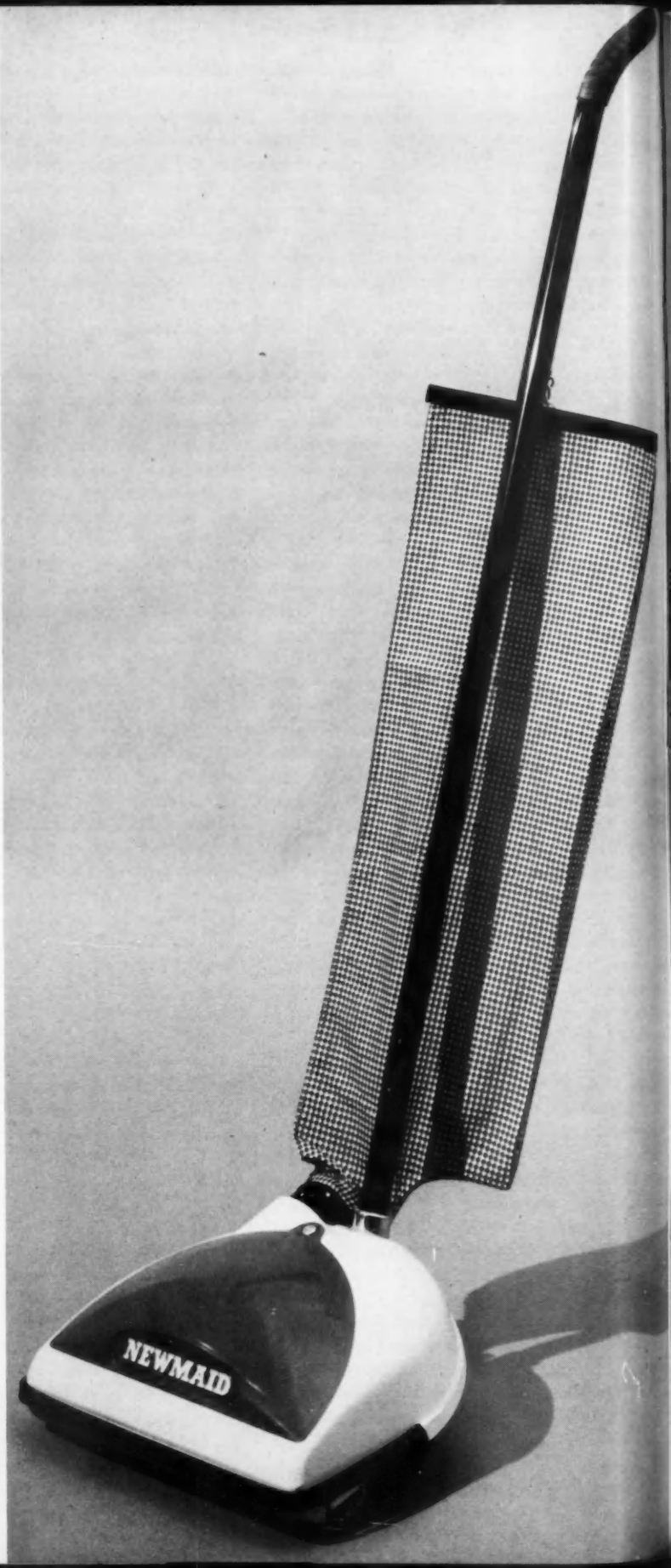


The seventh article in this series discusses a non-electric suction assisted sweeper. The product was evolved from a pre-war mechanism and was designed along lines suggested by an extensive market research programme. The authors report on the reactions to the cleaner in use by a team of housewives, and go on to discuss the product's advantages and limitations. From the motivation research questions raised here they wonder if designers of the 'form-follows-function' school may soon have to revise their approach.

DESIGN ANALYSIS 7

L. BRUCE ARCHER and J. BERESFORD-EVANS

Floor cleaner

MAKER Burrage & Boyde Ltd.
£7 19s 6d

THE 'NEWMAID' non-electric cleaner is a product rich in antithesis. At every point it seems both to typify and to contradict the general rule in British domestic appliance design and manufacture.

To begin with, the firm Burrage & Boyde Ltd is of average size, employing between 200 and 300 workers. It is also, typically, a private company wholly owned and managed by the founders and their two sons. On the other hand the owners recognise and practise an unusually high standard of professionalism in technical, business, and man management, and the enthusiasm shown for new techniques of production is quite remarkable.

The original idea for the 'Newmaid' was first conceived by A. E. Burrage in 1926. His aim was to improve on existing carpet sweepers by incorporating a suction fan and a dust bag. The old 'Newmaid', based on these principles, has enjoyed a steady if unspectacular sale since 1932. The plans for the present model date back to 1946 when the war contracts came to an end. A long term project was put in hand, financed entirely from accumulated reserves. The marketing side of the business is handled by the Boydes, father and son, and their knowledge of the principles of market and motivation research led them to begin the project with a series of market surveys, carried out chiefly by the advertising agent, Mather & Crowther Ltd, which has worked closely with the firm on the development and marketing of the product. (How many British firms, even big corporations, really begin an appliance design project with market research operations the costs of which may run into four figures?) The results of these surveys established certain principles which profoundly influenced the design of the product and which must be borne in mind when the design is discussed.

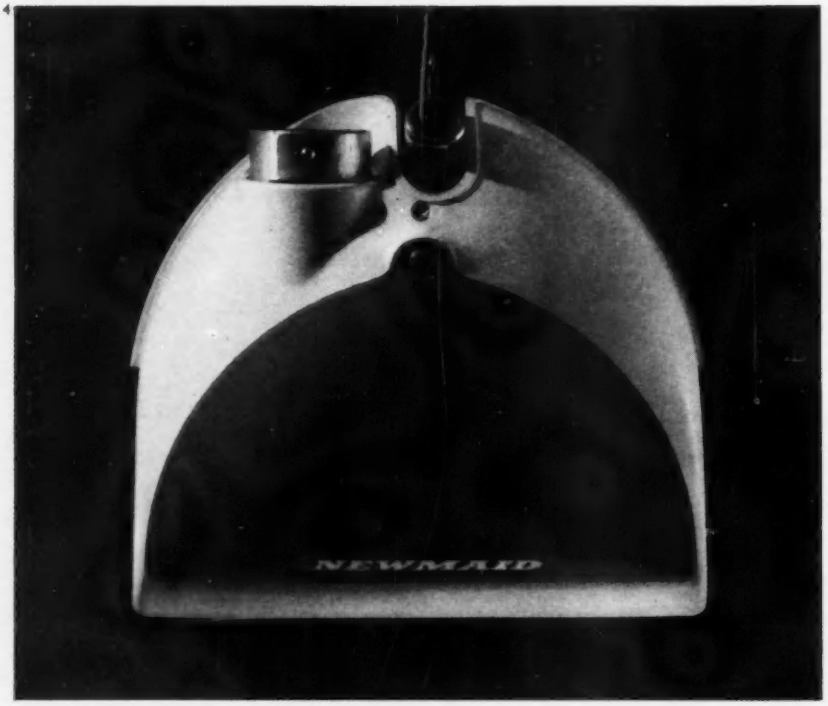
The original conception of the 'Newmaid' was of a more efficient and more hygienic type of carpet sweeper. In its operating principles it remains a suction assisted sweeper rather than a brush assisted suction cleaner. However, the preliminary surveys indicated that actual and potential consumers regarded the machine as a junior vacuum cleaner and that comment, whether favourable or unfavourable, was almost invariably based upon a comparison between the 'Newmaid' and an electric vacuum cleaner. This being so, one might have expected the comparatively low price to have been a vital selling factor and the largest section of the market to have been found among young newly married couples. However, it was found that the newly-weds generally would find it suited them better to buy on the instalment plan a cheap cylinder electric cleaner.

Market research disclosures

The predominant group in the breakdown of potential consumer distribution was shown to consist of 45-year-old housewives, whose homes are no longer subject to the constant coming and going of young children and who are increasingly troubled by the weight of a standard electric cleaner and by the effort of plugging

4 In plan the repeating D shapes make the cleaner look sho
and fatter than it really is.
5 The mechanism is remarkably compact, but the considera
distance of the brush and suction orifice from the front and si
of the machine can be clearly seen.
6 The broken line from front to back is emphasised in this view
7 The ease with which the brush can be removed for cleani
or replacement is one of the most favourable features.
8 The machine is built around a large aluminium alloy gra
die-casting to which most other components are attached.

4



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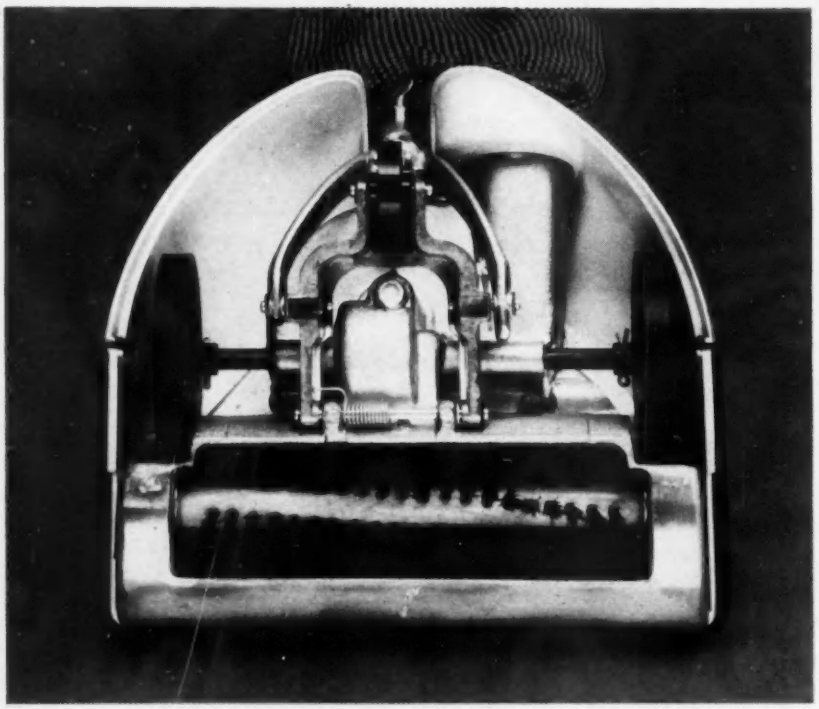

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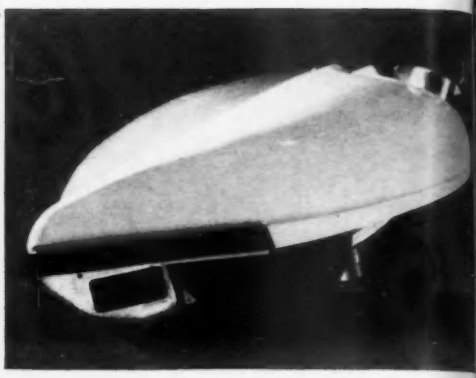

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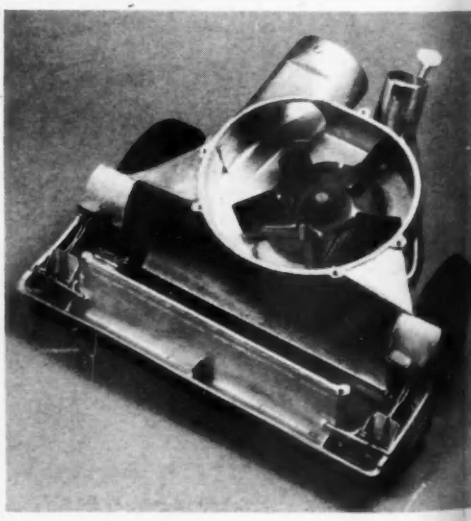


and unplugging cables into sockets at ankle height. Apart from this the surveys suggested that the market would be more or less uniformly distributed over the social and income groups and the geographical regions of the UK. Thus it appeared that the 'Newmaid' would be in competition with neither the orthodox carpet sweeper, nor the cheap electric vacuum cleaner, but with the *standard* type of electric cleaner. It was also shown that the chief selling points for such a machine would be lightness, simplicity, and ease of getting into action.

The 'Newmaid' was therefore deliberately styled in the manner of a standard electric vacuum cleaner. The design was executed by the Burrages, father and son, who handle the design and production sides of the business. Neither has had any training in the aesthetic aspects of design but both have been profoundly influenced by modern trends, and by Italian design in particular. The white case, injection moulded in high impact polystyrene, resists marking and is appropriate to the nature of the machine. The choice of contrasting, coloured access panels is a current idiom. The colours available are a strong red (approximately BS 0–006), a pale ultramarine or French blue, a yellow (about BS 0–001) and an emerald green. The blue and the green do not harmonise particularly well with the shepherd's plaid or sponge bag grey of the dust bag, which otherwise is excellent.

Burrage & Boyde Ltd comments: We do not agree that the 'Newmaid' has been deliberately styled in the manner of an electric cleaner. The simple fact is that both non-electric and electric cleaners have in common a rotary brush combined with suction and a bag; these common factors dictate a similarity in outward appearance.

Improvements in appearance

On the whole, although the cleaner is sprightly and immaculate in appearance, the shape could have been considerably improved. The main moulded casing is quite large and tall, but the white colour helps to keep it from looking heavy. On the other hand, the D-shaped plan, **4**, developed over most of its area into a dome, is no way to keep the apparent size down, **9**. The black bumper trim would have helped if it had been carried right round. An obvious move would have been to make the line where the sides blend into the top more crisp, and, in the side elevation, **6**, to have used a smooth line running from the nose over to the back of the machine. The shape of the access panel, **4**, is even more unfortunate, for it reiterates the D-shaped plan in a more slack and paunchy manner.

Stepping back the name panel from the front edge also emphasises the height. If this panel had been allowed to run down to the bumper, having less width and sweeping to the rear, then the eye would have run across the cleaner without interruption. At present the form is broken by the white margin, by the rise to the name panel, and, most irrelevantly, by the projecting fixing lug at the top of the access panel. The name 'Newmaid' is in a rather coarse Egyptian italic, distinctive enough but excessively large, **3**. Placed on a recessed panel that dominates the front it is something of a vulgarity which is explained, but perhaps not quite excused, by the desirable association which this feature has with the built-in headlamps on several well known makes of electric vacuum cleaner.

Burrage & Boyle Ltd comments: We agree that the name 'Newmaid' is excessively large, but this is deliberate to avoid the necessity of including the brand register on the bag, which is the usual position.

The hand grip, **3**, which is pleasantly decorated with bands of diamond pattern, would have enhanced the appearance of the product's value if it had been in colour or in a richer moulding, especially at the base.

Burrage & Boyde Ltd comments: We accept this criticism and will go ahead with changes.

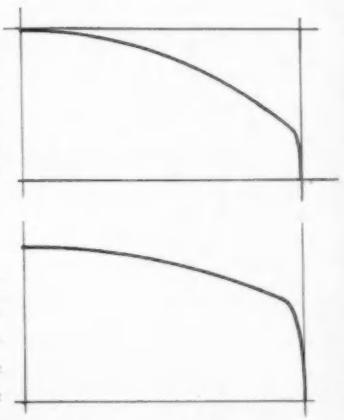
Impressive performance

The 'Newmaid' is very much easier to push about than one might expect from a machine whose power is picked up by friction drive from the road wheels. The fan responds with a workmanlike hum. Surface debris, especially on carpets, is picked up with spectacular efficiency, although there is some difficulty in raising silk threads and wool. Materials with a fairly low specific gravity, such as ash and cinders, together with the fine short staple fluff which one often finds on polished surrounds, especially in bedrooms, are taken up particularly well. Some other materials, such as metallic particles heavier than aluminium, and certain gritty and stony materials, are less effectively dealt with, partly because they are inclined to rebound from the underside of the access panel back into the brush and so to the floor, **11**. A serious shortcoming is its inability to clean closer than two inches or so from the skirting.

Undoubtedly the most favourable feature of the 'Newmaid' is the extreme ease with which it can be brought into action. Almost everyone who handles it is impressed with its performance, mainly on the grounds that it so nearly approaches the efficiency of an electric vacuum cleaner. Among the team of housewives who tested the cleaner none, however, would admit that it might displace the electric machine altogether, although more than one would have liked to have used the machine for the daily round, giving the carpets a more thorough cleaning once a week.

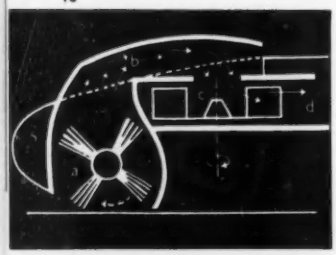
Revolving brush does the work

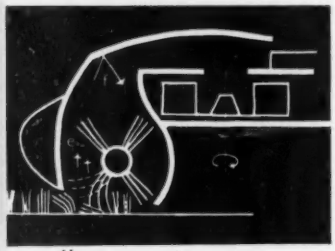
The basis of the housewives' misgivings is part of the paradox, however. Unlike the standard electric cleaners with which, the consumer insists, it should be compared, the 'Newmaid' does its work primarily with the revolving brush. This brush revolves against the direction of movement of the carpet under the cleaner, parting the pile and brushing it from root to tip, **11**. The materials thus removed are hurled vertically upwards into the brush chamber and carried away by the air stream passing into the fan and thence to the dust bag, **10**. Although the 'Newmaid' can develop a suction pressure equal to four inches water gauge at the entrance to the fan chamber – a higher figure than some electric machines – the rate of air flow through the



9 The use of a large area of dome with its slack curvature, top, as used in the 'Newmaid', is usually less effective in reducing the apparent size of an object than a shallower curve, with more sharply defined corners, as in the lower diagram, even though the volume of the object as a whole may be increased.

10





11

10 (a) Brush driven by friction from road wheels rotates *against* direction of travel of cleaner. Large area at opening gives little suction at carpet level
(b) Maximum suction is at restricted throat
(c) Centrifugal fan driven from road wheels via free wheel and step-up gear box
(d) Outlet to dust bag

11 (e) Brush lays pile down and brushes from root to tip
(f) Bristles spring over, hurling dust upwards. Heavy particles strike roof and tend to bounce back into brush

orifice at floor level is not sufficient to lift any but the very lightest particles by suction alone. This is one of the main points which the authors wish to criticise.

It can be demonstrated that if the brush is prevented from revolving, or is removed altogether, only very light dust will be lifted by the suction alone. On the other hand, if the fan is removed and a tray provided to collect the debris thrown up through the brush chamber by the brush, a substantial quantity of dust and dirt can be seen to have been taken up. Thus it is clear that the operating principle is, as it was conceived to be, a suction assisted brushing action. We therefore think that the logic of selling the machine as a vacuum cleaner should not have been taken so far as to have included the following sentence on page one of the instruction book:

"Like all good vacuum cleaners, the 'Newmaid' has a revolving brush to pick up dogs' hairs, thread, etc, and a motorised fan which creates a powerful suction for pulling up embedded dirt and dust." Further down on the same page the description again refers to "its powerful suction".

The fact that the action of the brush is more powerful than that of the suction is not a thing which has to be ignored or concealed. On the contrary, one of the delights of the 'Newmaid' is the discovery that loose carpets and thin mats can be cleaned without clinging immovably to the nozzle or threatening to fold up and disappear into the machine.

Burrage & Boyde Ltd comments: The wording of this claim has already been amended both in current television scripts and advertisements, and amendments to literature will follow as reprinted. The amended wording reads "as the brush flicks the dust out of the carpet the suction pulls it into the bag".

The use of the term "vacuum cleaner" instead of a phrase such as "suction sweeper" can, of course, be justified. The basic concept of selling the machine as the thing the public takes it for, and wishes it to be, was discussed at the beginning of this article. Although everyone knows that even the most powerful electric cleaners could not possibly develop a true vacuum, this word has gained universal currency as a synonym for "suction", and it would be ridiculous to expect the maker of the 'Newmaid' to be the only manufacturer to use the more correct but less familiar term.

In all other respects the literature provided with the machine is well illustrated, and written in direct, friendly terms. The guarantee should be an example for other appliance manufacturers. It reads: "Please record my 'Newmaid' as being under guarantee against faulty workmanship and materials for a period of one year from the date of purchase." There are no cautiously worded provisions to befuddle the consumer and sap his confidence in the value of the contract with visions of cunning legal loopholes.

Construction

The machine itself is a model of design for production. It is built around a large aluminium alloy gravity die-casting which encloses the brush chamber, the fan chamber, the gear box and the main axle housing, &. This component is produced in a massive die, having 11 moving cores, most of which are withdrawn by racks and pinions operated by a single handwheel. The simple but efficient fan is composed of two pressings spotwelded together. The road wheels, too, are built up from two identical pressings spotwelded together. The rubber tyres are vulcanised to the rims. Pressure die-casting, and other pressing operations are also used. One of the most exciting of the production shops, however, contains a battery of automatic lathes. These are the latest German machines, capable of production cycles as short as 0·8 second and of running for days and weeks with little attention.

On the 'Newmaid', the 14 : 1 step-up gearbox consists of a pair of skew gears, one in steel and the other in nylon, and a free wheel, all the parts including the ball race thrust bearing being made in the 'Newmaid' factory. Indeed, almost the only components which are bought out are the plastics cover and access panel, and the dust bag material. It is unusual to see such varied production methods going on under one roof.

Form-follows-function: or does it?

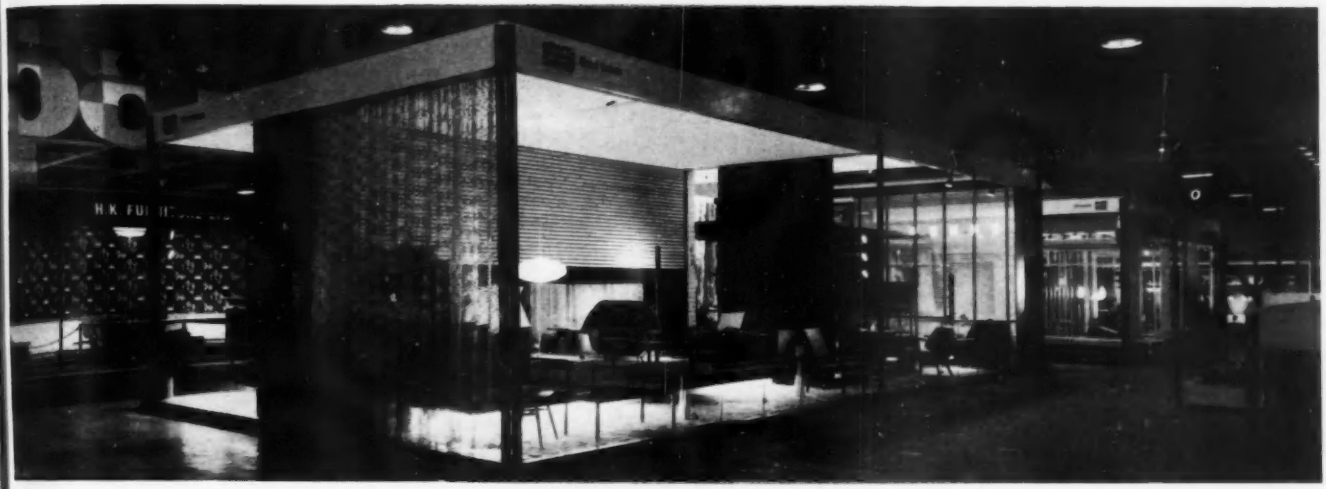
As in previous articles in this series it is clear that an assessment of an individual product must take into account all the contributory factors which add up to a balance of advantages and disadvantages. The manufacturer of the 'Newmaid' has shown unusual foresight in embarking on a well planned research programme before deciding on the form the new product would take. At the same time he has brought to light a matter of principle which may well become a major controversy among designers, as the techniques of motivation and market research improve and become more widely used. Until now the ideal of 'form-follows-function' has been widely regarded as sacrosanct – sometimes difficult to achieve; sometimes without popular appeal; but always morally right. Thus it has been held that it is wrong for one thing to be styled in the likeness of another, as for example in the case of electric log fires. Motivation research, which is sometimes credited with Freudian implications, is beginning to show that most consumers desire some products at least to be suggestive of something other than their mundane selves. If the results of these researches are to be commercially applied and products are to be designed from the outside inwards, designers will have to do a lot of rethinking.

FURNITURE

leading trends in Britain and Europe

Inter-European trade in furniture is at present restricted by transport costs, tariffs, and systems of distribution, and to a certain extent by the existence of strong national preferences and styles. The introduction of a Free Trade Area, with its opportunities to sell to wider markets, and its threat of increased competition at home, may radically change the situation. This survey, showing a selection of recent designs from Britain and Europe, gives some indication of current lines of development within the proposed F T A.

'Living in Britain', the CoI D stand at this year's 'Furniture Exhibition' was designed by Helen Challen; it formed part of a central international feature which showed designs from Denmark, Italy and Finland.



British furniture

BRITISH FURNITURE PRODUCTION today can be roughly divided into three categories: the traditional, the pseudo-modern or 'contemporary', and the modern.

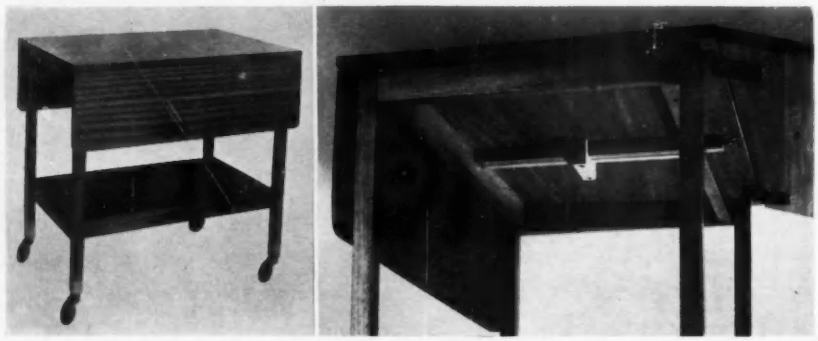
Traditional furniture has been with us so long that it has become a style rather than a fashion, with few basic changes during the past 30 years. To many eyes it is difficult to distinguish between the variations on dark shaded oak carving (real or pressed), bulbous turnings and bulging fronts. Yet in spite of this abuse of materials and basic principles of design, one is often aware that the manufacturers sincerely believe in what they are producing.

The attitude of manufacturers of pseudo-modern or 'contemporary' furniture seems completely different. Their ranges are lacking in self-assurance. Clichés are culled from the good designs of last year or the year before and diluted with a touch of the traditional. There are caricatures of subtle shapes and lines, concoctions from directors' sketch pads, gleaned at Hanover or Copenhagen, and such phrases as "We employed a designer this year, but modifications had to be made".

If these firms are genuinely aiming to improve design standards they must realise that this cannot be achieved by superficial imitation of current styles. For good design to be good business it must be established as a policy, with a feeling of integrity, and belief in the reason why it is being done. The designer (staff or consultant) must have full responsibility for his designs, and yet become a part of the organisation that will see

his ideas through to production and display in the shops. To many manufacturers 'contemporary' furniture is a band-waggon; they swing on the tail-board, but at all costs avoid the reins.

The best modern furniture is designed for today's way of life; it is furniture we can live with and be proud of, in fact furniture that has been *designed* with all the depth of meaning that this word has taken on during the past 10 years. This category can include a very diverse range, both in style and materials used, produced by firms that have developed in very different ways. There is, for example, Furniture Industries Ltd, with its clear-cut evolution from the Windsor chair; Archie Shine Ltd, a manufacturer of traditional furniture, in under two years has built up a fine modern range by using a good consultant designer; Ernest Race Ltd has evolved through timber restrictions by turning a small, well organised metal works over to furniture production; S. Hille & Co Ltd, known before the war for its superbly made reproduction furniture, has carried this quality into well designed modern furniture; D. Meredew & Co Ltd links understanding of machine techniques with a sound design policy. It is noticeable that these firms all have what might be called a house style – a style which almost invariably stamps the furniture with the name of the manufacturer. It is important that there should be this feeling of parentage, although it should not stifle the development of new ideas and techniques.



This trolley with hinged flaps is well proportioned and simple in line. The method of hinging enables the flaps to fold so that no edge protrudes beyond the top, and the usually inevitable crumb trap is avoided. DESIGNER *Peter Hayward.* MAKER *W. G. Evans Ltd.* £9 9*s.*

Sam Lambert

Sam Lambert

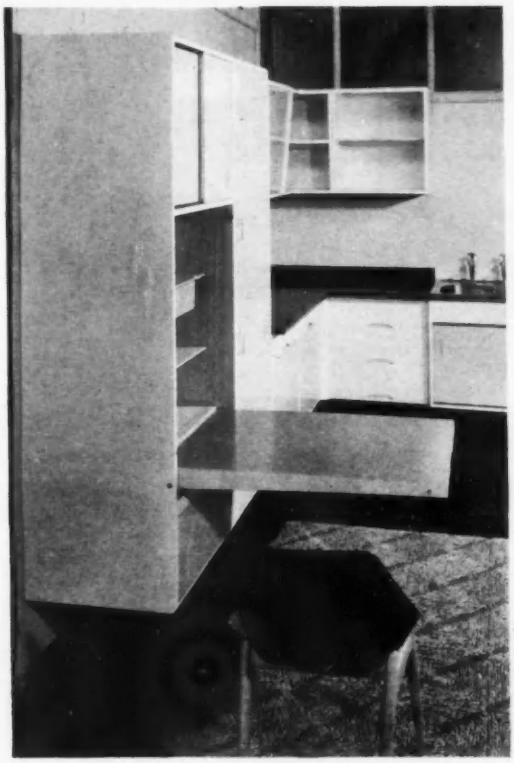
TOP Steel rod reinforcements, which are extensions of the leg units, are incorporated in the moulding of this glass fibre chair. It is of double shell construction; in this model the inner shell is upholstered in 'Vynide' backed with foam plastics. DESIGNER *and* MAKER *Aidron Duckworth. From* £27 15*s.*

CENTRE This occasional chair is completely machine produced; it has a strongly constructed ebonised beech frame, upholstered with 'Latex' foam on 'Rotex' webbing. It is extremely well finished throughout, and is slim and refined in line. DESIGNERS *F. L. Bristow and D. W. Webb.* MAKER *Bristow & Townsend Ltd.* £13 7*s* 6*d.*

BOTTOM This is an interesting use of a moulded glass fibre shell for the more conventional upholstered chair. The chair is comfortable, roomy and well proportioned though it seemed a little too flexible on first impression, and the extruded plastics edging seemed to be fitted rather loosely. DESIGNER *E. F. G. Suckling.* MAKER *Wood Bros (Furniture) Ltd.* £22 2*s.*

There is a feeling of lightness in this dressing table. It has a natural wood finish, and reeded drawer fronts. There is plenty of drawer space and a large mirror whose angle can be easily adjusted. DESIGNER *Robert Heritage*. MAKER *Archie Shine Ltd.* £38 16*s*.

A convertible bed settee with pleasant lines and good storage space for bed linen. It is comfortable both as a sofa and as a bed, and is designed to knock down for transport. DESIGNER *George Fejér*. MAKER *Guy Rogers Ltd. From* £36 9*s* 6*d*.



Sam Lambert

Careful thought has been given to the appearance of these dining chairs when grouped, either against a wall or round a table. They have been designed primarily for use at conference tables or in hotels. DESIGNER *Robin Day*. MAKER *S. Hille & Co Ltd. With arms* £10 4*s* 6*d; without arms* £8 14*s*.

continued

Unlike most equipment for the kitchen these units can be suspended from the wall at any convenient height. They have clear cut lines with dust traps reduced to the minimum. The working flap, shown in a lowered position, has a tapered side, giving maximum strength without appearing clumsy. DESIGNER *Paul Bridson*. MAKER *Kandya Ltd. Prices from maker*.

Retail prices are approximate and include purchase tax.

overseas review

European furniture

DESIGN correspondents:
Denmark: Ibi Trier Mørch
France: Roger J. Cario
Germany: Dr Heinrich Koenig
Italy: Letizia Ponti
Sweden: Eva Ralf
Switzerland: Alfred Altherr

RECENT DEVELOPMENTS in furniture design have tended to follow two streams, derived on the one hand from the use of traditional materials and methods of construction, and on the other from modern technological achievements. These two streams can be seen as contrasting influences in the following review of recent furniture from countries in the proposed Free Trade Area.

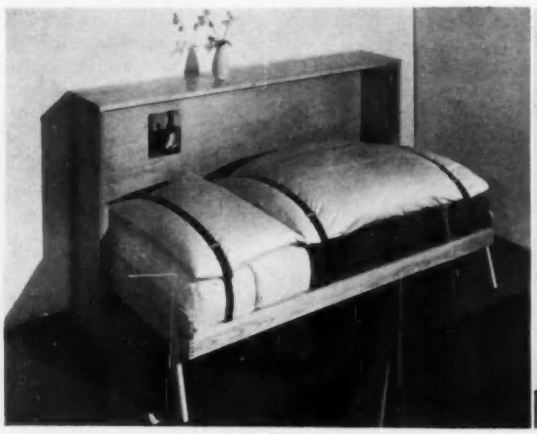
The Scandinavians with their large indigenous supplies of timber have concentrated on refining their traditional methods with designs of great subtlety. The opposite extreme can be seen in the work of two leading Italian firms in which advanced technical ingenuity is linked with refinements of appearance – a rare combination.

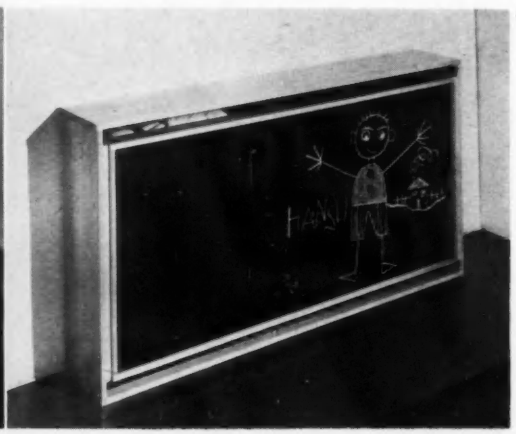
In Scandinavia most firms are small; they have, however, made inroads into dollar markets with the manufacture of high quality furniture. Economic production methods are carefully planned, and several firms specialise in the manufacture of knock-down furniture. (A case history of one such firm in Sweden is given on pages 59–61.)

It is only in this country and in Germany that the mass production of furniture has been fully developed. Costs of labour and material are lower in Germany, but at present it exports very little. The strong national characteristics of German furniture – clinical efficiency and a certain heaviness – may limit its demand in wider markets. The Dutch have built up an efficient industry that is competitive in some European markets. France has made little contribution to furniture design since the nineteenth century; with some notable exceptions its industry is conservative in taste and production methods. Its output tends to be flamboyant and nostalgic, lacking in the refinement of design that characterises the best of Italian and Scandinavian production.

Where, then, does Britain stand in relation to the FTA? Standards of furniture production in Britain are high; British firms are generally larger than those on the Continent and quantity production is more highly developed. Transport and high costs of labour and raw materials, will be the chief difficulties facing those firms that aim to take advantage of the new markets. But if lasting rewards are to be won not only a high quality in design and manufacture but a more aggressive approach to selling will be essential. The fact that there was only one British firm among over 200 non-German exhibitors at the recent 'Cologne Furniture Fair' suggests that greater efforts will be needed if the British furniture industry is to reap the full benefits of the FTA market.

Where available, retail prices in the country of origin are quoted.



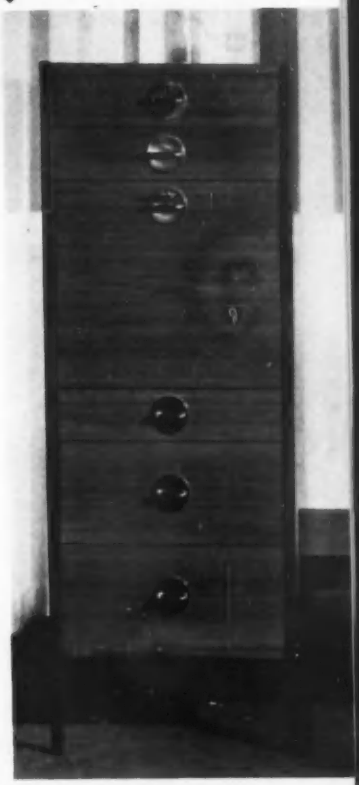


Switzerland A practical answer to space problems in the nursery. There will be no dirty finger marks on the wall; the fact that the bed need not be unmade for storage is an added advantage. DESIGNER *J. Köppel*. MAKER *Wohnhilfe*. *Sfrs.370*

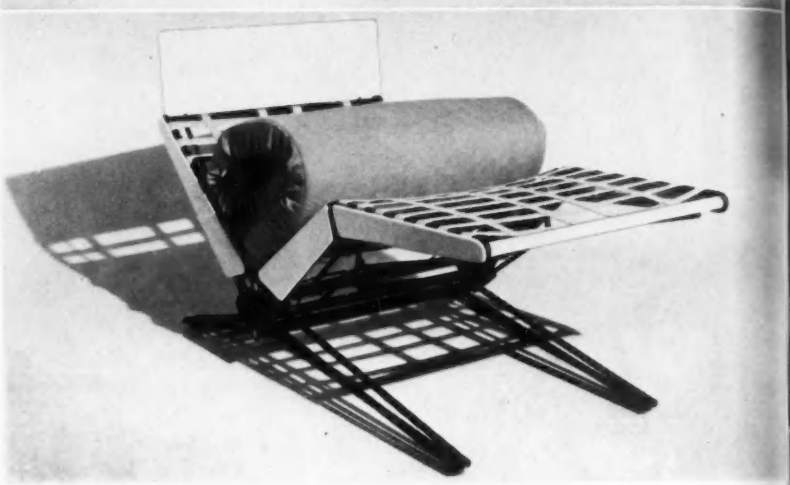
Holland Nesting chairs that have been designed for use in offices, canteens, etc. The seat and back are in plastics sheet, and the frame is in stove enamelled steel. Considerable care has been given to the design of the feet. DESIGNER *Friso Kramer*. MAKER *N.V. Wed J. Ahrend & Zoon. From Dfl39·75.*

Holland The metal frame of these glass fibre chairs gives the shell moulding a rigidity that chairs in this material sometimes lack. Most European countries are now producing interesting variations on the glass fibre theme. DESIGNERS *W. Rietveld and A. R. Cordemeyer*. MAKER *Gispen Metal Works. Dfl249 upholstered; Dfl155 without upholstery.*

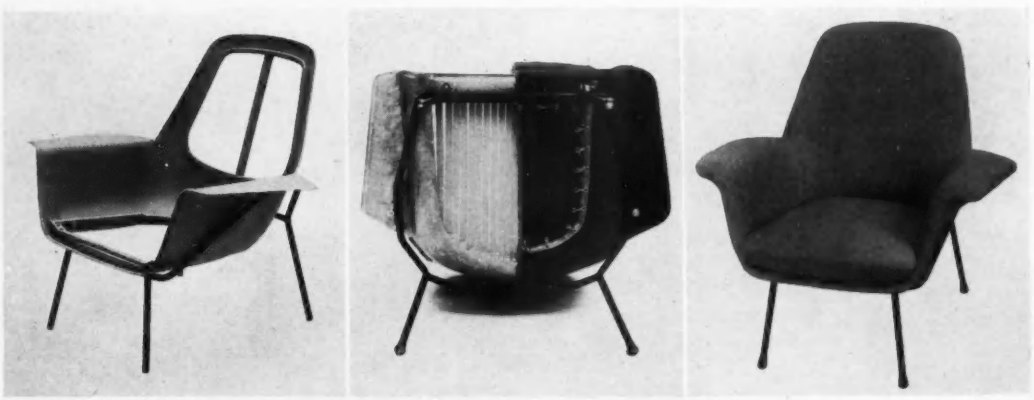
Sweden Its crisp lines and sensible arrangement of drawer and cupboard space make this a functional and elegant piece of furniture. DESIGNERS *Erik Herlow and Tormod Olesen*. MAKER *AB Nordiska Kompaniet. From 525 Swkr.* IMPORTER *Finmar Ltd, 26 Kingly St, W1*



Italy Italian furniture designers recently have shown a reluctance to use natural wood finishes. Here the surface is lacquered. By removing the side panels the chairs can be joined together to form a settee. DESIGNER *Marco Zanuso*. MAKER *Ar Flex*. *L62,000*

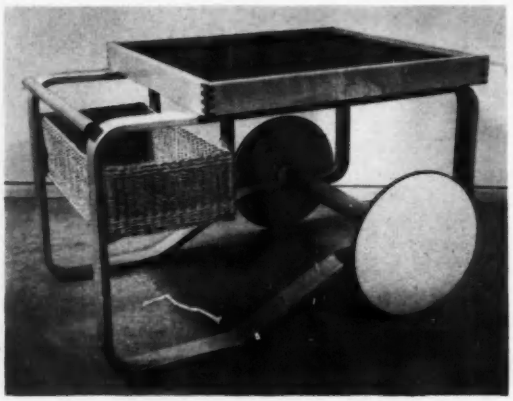


Italy A new design from a firm that is well known for the technical ingenuity of its products; this bed can be easily adjusted by a lever to various heights and positions. DESIGNER *Osvaldo Borsani*. MAKER *Tecno*. *From L136,000*. RETAILER *Heal & Son Ltd*.



Italy Formed three years ago, this firm has factories in France, Spain, Belgium, Holland and Italy. The sheet aluminium frame of this chair was hand beaten for first small quantity production; pressed steel is being used for mass production. DESIGNER *Gian Carlo de Carlo*. MAKER *Ar Flex*. *L45,000*.

Finland An understanding of the use of laminated wood structures gives Finnish furniture its characteristic house style. DESIGNER *Ilmari Lappalainen*. MAKER *Asko*. IMPORTER *Finmar Ltd*.



Finland Tea trolley in Finnish birch. An essentially basic approach to design. DESIGNER *Alvar Aalto*. MAKER *Artek*. *From 25,000 Fmk*. IMPORTER *Finmar Ltd*.

Denmark This glass fibre chair has an elegance of form that can also be seen in the Danish approach to the use of timber. The tapered steel legs and feet are particularly successful. DESIGNERS *Steen Eiler Rasmussen and Kai Lyngfeldt Larsen.* MAKER *Bovirke.* 110,00 *Dkr.* IMPORTER *Finmar Ltd.*

Sam Lambert

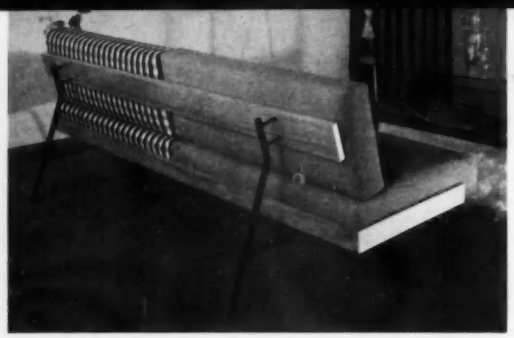
Denmark Tray/table with veneered teak top on ebonised base. The base folds flat when not in use. DESIGNERS *H. Engholm and Sv. Aa. Villumsen.* MAKER *Fritz Hansens Eftfl.* RETAILER *Trollope & Sons (London) Ltd, SW1.*

Denmark Child's desk and chair – a simple problem solved in a simple way. The designs are completely demountable. DESIGNER *Hans J. Wegner.* MAKER *FDB.* IMPORTER *Finmar Ltd.*

Denmark A design which seems to have evolved from the intrinsic qualities of the materials used. The sledge feet are practical and unobtrusive. DESIGNER *Poul Kjaerholm.* MAKER *E. Kold Christensen.* 350,00 *Dkr.*

Denmark Few wardrobes provide such an adequate solution to the problem of storing clothes, suitcases, etc in a small space. This design is obviously based on intelligent research into users' needs. DESIGNERS *Grethe Meyer and Børge Mogensen.* MAKER *Boligens Byggeskabe.* 1564,00 *Dkr.*

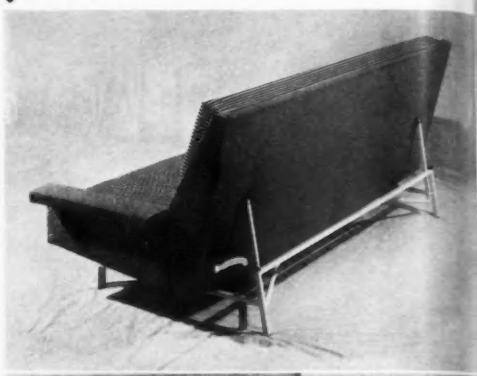
Denmark An excellent example of the successful combination of machine and hand production. DESIGNER *I.B. Kofod-Larsen* MAKER *Christensen & Larsen.* 850,00 *Dkr.*

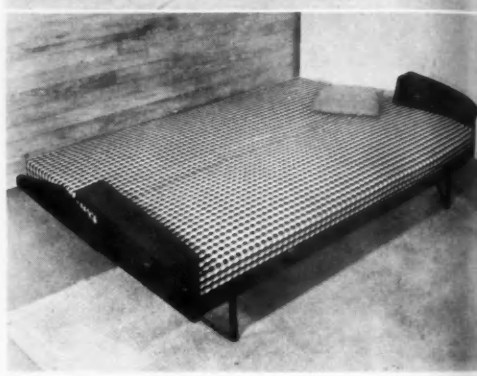


Austria A functional, yet lively approach to the design of a settee. DESIGNER *Helmut Otepka*. MAKER *Osterreichische Werk-stätten*.

France A good solution to the problem of producing a double bed from a bed settee. The linked mattress lies completely flat when the bed is extended. DESIGNER *R. Caillette*. MAKER *Steiner*. 130,000 *F*.

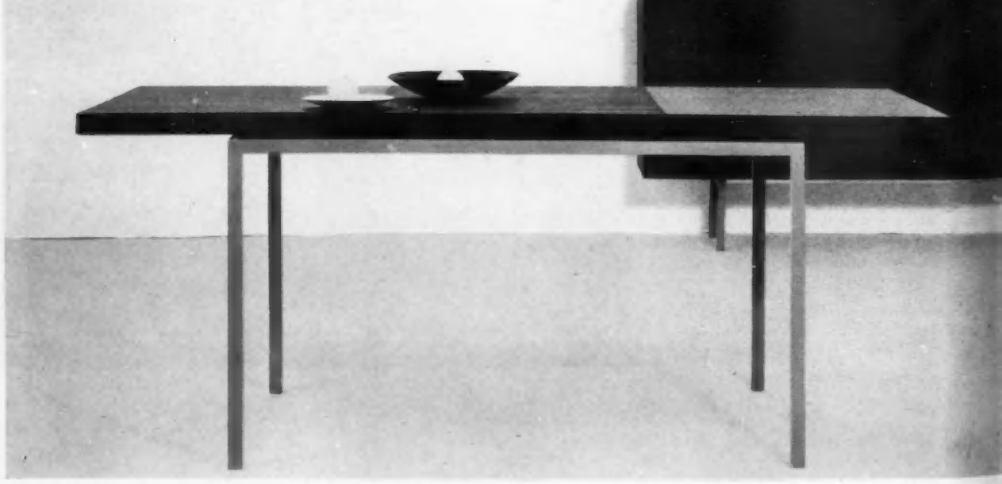
France French design at its best shows a certain flamboyance and a novel approach to familiar problems. This chair is in sheet aluminium with a chromium finished framework. DESIGNER *Janine Abraham*. MAKER *Société Abraham*. 35,000 *F*.





Germany Extendable table in palisander. The Bauhaus approach – simple functional design – has become an international idiom and is still very apparent in German furniture. DESIGNER *Herbert Hirche*. MAKER *Christian Holzäpfel*. *DM* 675.

Germany Although the Scandinavian influence is apparent in this chair, it remains characteristically German. DESIGNER *E. Harlis*. MAKER *Thonet A.G. From DM* 210.



Sweden KD for export - a case history

A Swedish firm specialising in the production of knock-down furniture has been highly successful in establishing and extending its export markets. This account of its production methods may be of some value to the British furniture manufacturer who will be faced with increased competition when the Free Trade Area is established.

DENNIS YOUNG

THE 'DUX' RANGE of furniture includes beds, dining chairs, occasional chairs and fully upholstered chairs; it is, however, mainly with the firm's production methods in fully upholstered chairs that this feature is concerned. The company responsible for 'Dux' furniture, Ljungs Industrier AB, has its head office, research department and design studio in Malmö, in South Sweden. There are four factories in Sweden, one for upholstery in Malmö and one in Trelleborg, a mattress factory at Sösdala, and a 'Latex' foam plant at Svedala. The four factories employ some 700 workers, and a considerable quantity of chair frames are bought from other manufacturers.

Overseas the firm has a factory producing mattresses in the Belgian Congo, and factories in San Francisco and New York. As well as being exported from Sweden, 'Dux' furniture is manufactured under licence in Denmark, Norway, Finland, England, Holland and Austria.

The design team at Malmö, headed by Alf Svensson, works in close contact with the research and experimental department, and it is through the combination of these two teams that the bulk of 'Dux' designs are produced. There is also a smaller design team working in San Francisco under Folke Ohlsson (originally chief designer in Sweden, and now president of the American company). From time to time, outside designers are called in to produce designs, adding fresh blood and stimulus to the company's own work. Designs by Carl Malmsten, Yngve Ekström, Edward Wormeley and Kindt-Larsen are in current production.

When I asked Eric Ljung, the managing director of the firm, how far foreign requirements are taken into account when producing designs, he said: "Generally our furniture is designed for the Swedish market, but furniture of the kind we produce is accepted all over the world. The designs by Folke Ohlsson are mainly intended for the American market, but almost every model he makes also sells in Sweden and in other countries. This design exchange between Sweden and America is most stimulating."

Throughout the development of a new design a close watch is kept to see that any simplification in variety of raw materials, production methods, assembly, etc, does not reduce the quality or character of the piece. Yet it is a vital part of the firm's policy to limit the choice of cover ranges, varieties of wood, component parts and finishes. Many British manufacturers ask how foreign firms are able to issue such a limited range of upholstery covers. It is, however, in this way that the company has achieved better production and better value for the customer. One of the problems facing the British furniture industry is not the very large number of firms of varying sizes, but rather the over large range of pieces they each produce.

Soft wood, the traditional material for chair frames in Scandinavia, is used by 'Dux'. The main show woods in the range are beech, oak and teak, with plain woollen fabrics for upholstery. Coil springs, tension springs and cotton linters are employed to a considerable extent, although rubber webbing and 'Latex' foam are also widely used. Sweden has tended to be rather slow in its adoption of 'Latex' foam. Possibly the Scandinavians felt that this new material would not give the firmness they preferred and obtained with the traditional coil spring.

'Dux' chairs have rather firmer backs and seats than are made in Britain; for the fully upholstered chairs traditional techniques are still used, and the achievement of a good line remains much more in the hands of the upholsterer than we would generally expect to find in this country.

KD for efficient manufacture

Almost all 'Dux' furniture is knock-down, or KD, to use the current abbreviation. The visitor to the 'Dux' factory sees few, if any, complete pieces of furniture on the whole of his tour.

The production methods of the factories are based on the accurate manufacture of component parts. However, before the parts for a piece of furniture are packed into their boxes for despatch, the complete assembly is made and carefully checked. Mr Ljung explained to me why he decided to produce knock-down furniture. "In Sweden, as elsewhere, furniture sells in seasons. However, for efficient manufacturing it is necessary to produce almost the same amount of furniture each day and store the over production in the low season. This was impossible with upholstered furniture in the way we used to make it. By making our easy chairs, settees, armchairs, etc, demountable we

Production of components

1 Jigs are used throughout for the production of component parts. Here a spindle is being used to make the recess which takes the bayonet fitting used for assembling the K D chair.

2 The four components of the arm unit, shown here loosely fitted together before gluing. Mortice and tenon joints are used for the straight stretcher and dowel joints for the mitred arm joint.

3 One of the steel bayonet fittings for assembling the chair.

4 Softwood is used in the framing for upholstered parts of the chairs. Compressed board or plywood is attached and is often slit at intervals (in this case below the top rail), to facilitate the following of the contours.

5 An inter-locking spring unit is laid down on the back base. A sisal pad is placed over this followed by a layer of cotton felt. A muslin and fabric cover is then tacked over, and the back is ready for buttoning.

6 The back is inserted into a buttoning jig, which compresses the upholstery and gives the position for the buttons. The light weight chain attached to the button is stabbed through the upholstery, through a hole in the base board, and anchored at the back.

7 The back is now complete except for the outside back cover. A thin layer of cotton felt is laid between this and the base board.

8 The seat unit has a softwood frame; this is fitted with a 'No-Sag' spring unit over which goes a linked coil spring unit insulated from the 'No-Sag' with jute and cotton felt. The springs are then covered with a layer of moulded 'Latex' foam which is attached to the base frame with canvas flies. A muslin cover is tacked over before the final cover is put on.

9 The units of the chair are always assembled before they are packed.

10 The parts of the chair shown beside the box in which they are packed for delivery.

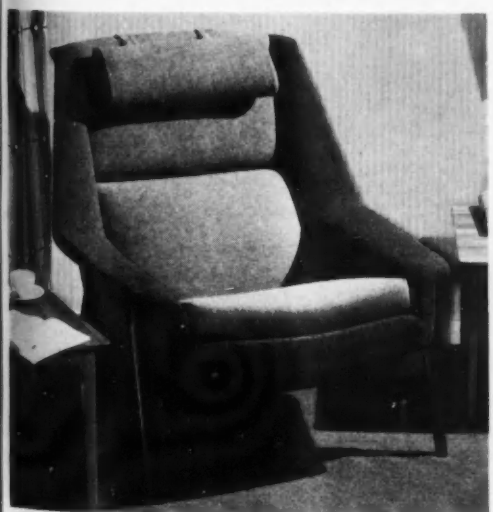
were able to save up to 90 per cent space in our warehouses; transportation was cheaper and easier, and the retailer also saved warehouse space. It was never our intention that the customer should assemble the chairs; they are always put together by the retailer."

'Dux' furniture has a cleanness and crispness of line which suggests comfort without ostentation. The factories in which it is made and the production methods used give this same impression of efficiency and up-to-date methods. There are light alloy templates in the cover cutting department, pneumatic upholstery jigs, portable air tackers, pneumatic back buttoning jig, gravity conveyors between various sections. Yet there is the feeling that mechanisation has been introduced as a supplement to hand craftsmanship, rather than for its own sake.

These then are the basic principles underlying the firm's production methods: the production of a limited range; demountable designs for home and export; minimum selection of covers and wood finishes; carefully planned production; a design policy closely linked with research; and high quality in design, construction and finish.

Mr Ljung believes that future developments must be based on realistic research into production methods and consumer needs. He summed up his attitude in a paper 'Industrial Design for Chairs' which he gave at the European Furniture Union's recent conference in Paris. "It seems to me that it is rather dangerous today for a manufacturer of upholstered chairs to invest in equipment for traditional production. I believe much more in investment for research in different fields, research in materials which lend themselves better than the traditional materials we now use to real mass production. Also research into the future consumer's attitude, the consumer's way of sitting and living will be necessary.

"When we know more about these things we will also know how to design better chairs and how to mass produce them. Probably we shall find new methods for using new materials. The field will be open for great progress."



Some of the chairs in the 'Dux' range of upholstered furniture. A visitor to the factory would, however, see few completed pieces of furniture. They are all designed on the knock-down principle, and are demounted for delivery to the retailer, who assembles them before selling to the customer.

AN EXAMPLE OF PURPOSE-MADE FURNITURE TO THE HIGHEST STANDARD

Shown here is a long low cabinet in Australian Blackwood, with ebony inlay, hand-wrought brass handles and leg tips.

Ian Henderson Ltd., are happy to carry out furnishing schemes to the requirements of architects and interior designers, or to submit their own designs.

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(200 yards from Knightsbridge on the left)

'Village Life', a poster designed for London Transport by L. Deighton. It is one of the series of full colour prints of famous London Transport posters, which includes the work of Edward Bawden, A.R.A., John Minton, E. McKnight Kauffer, and many others. The average size of the prints is 6" x 5". They can be obtained, price 1s. each (postage 3d.) from the Publicity Officer, London Transport, 55 Broadway, Westminster, S.W.1.

Miscellany

Design through MR

The recent publication in this country of 'The Hidden Persuaders' by Vance Packard has focused attention on the newer methods of marketing, advertising and designing of consumer goods. This analytical or 'depth' approach to marketing, apart from the fact that consumers tend to be manipulated like mindless zombies, ultimately constitutes a threat to the freedom and creativity of the designer himself.

Some time ago in the USA Philip Morris Inc found that consumers were tiring of its 'Philip Morris' cigarette pack. This pack, **2**, had been on the market for 22 years and the origin of its design was in a cedar box pack used by the company's antecedent in 1848. After making sure that it was the pack and not the cigarette which was at fault, the company went to work on a new design under the strategically confusing name of 'Project Mayfair'.

To ensure that the new pack would provide the strongest consumer bait possible, Philip Morris Inc called in a team from the Colour Research Institute of Chicago under Dr Louis Cheskin, a well known motivation research expert, to study the psychological and physiological effects of colour together with a team from the design laboratories of the Container Corporation of America to experiment with various package shapes and designs. The information gained from these sources led to the production of over 2,000 designs, of which one by the respected designer Egmont Arens, **1**, was finally selected.

The new design, **3**, has a red motif, containing the brand name, printed on a white ground with fine horizontal gold stripes and a gold company crest. According to the researchers the red chosen is a friendly colour and attracts the consumers' attention to the brand name, the white associates in his mind with mildness and purity and the gold gives a suggestion of elegance and quality. After the final design was decided, it was submitted to tests for visual acuity, colour brightness, peripheral visibility (whether or not it catches the eye outside the centre of vision), legibility tests and so on, and finally Philip Morris Inc carried out its own tests on consumer's reactions.

The company now claims that the redesigned pack has lead to a substantial increase in volume of sales, particularly in this country and in Australia, and that its competitors in USA have been forced by Philip Morris's example to adopt similar methods of marketing. If the 'depth' approach to design and marketing is a commercial success it cannot, on this evidence, claim any great subtlety in the field of design; indeed when the final result is considered one wonders why so many forces were marshalled for its creation.

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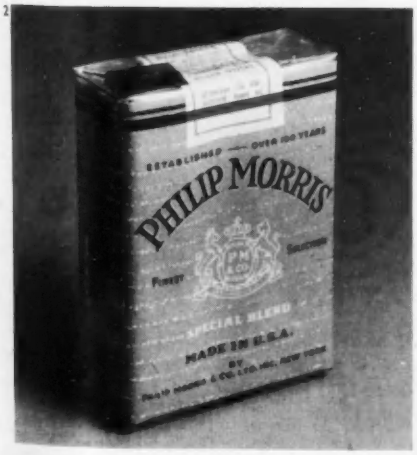
2



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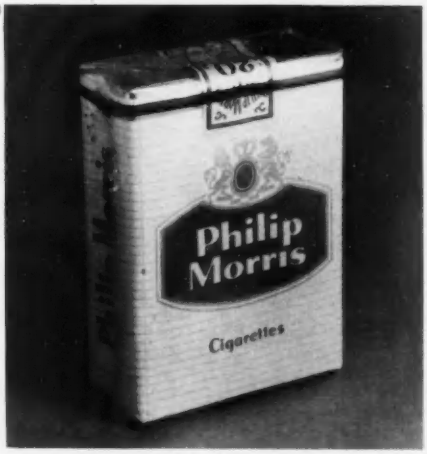

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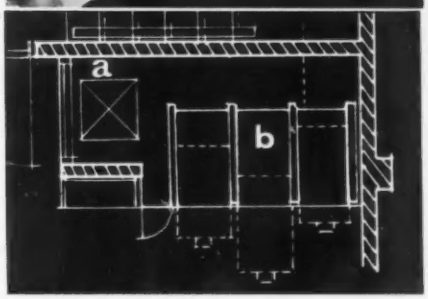


Food on file

In his recently designed house, Tibor Reich, in collaboration with Denys Hinton, the architect, has devised a food file which is fitted into a specially designed space under the stairs. Built into this space, which measures roughly four ft high by three ft deep and seven ft long, are three Sankey-Sheldon 14-inch steel filing cabinets, **5b**, and a standard Ferranti refrigerator heater, **5a**. Each cabinet has two drawers, the fronts of which are insulated with 'Fibreglass' and finished in polished plywood. The top of the projecting part of the cabinets forms a shallow shelf finished in grey 'Formica', above which are four glass fronted storage shelves, **4**.

The heat pump does all the refrigeration necessary for normal requirements with the exception of deep freezing and at the same time provides an adequate supply of hot water. Each drawer is kept at a different temperature determined by its distance from the pump; for example, the drawer farthest from the pump is the warmest, and so on.

This method of storage and refrigeration has a number of advantages over the conventional refrigerated larder with a constant temperature. For instance the food is more accessible and only the drawer containing the food required need be opened, thereby limiting the escape of cold air into the kitchen. Also a good deal of valuable kitchen floor space has been saved by making use of a recess that might otherwise have been wasted.

MISCELLANY

6

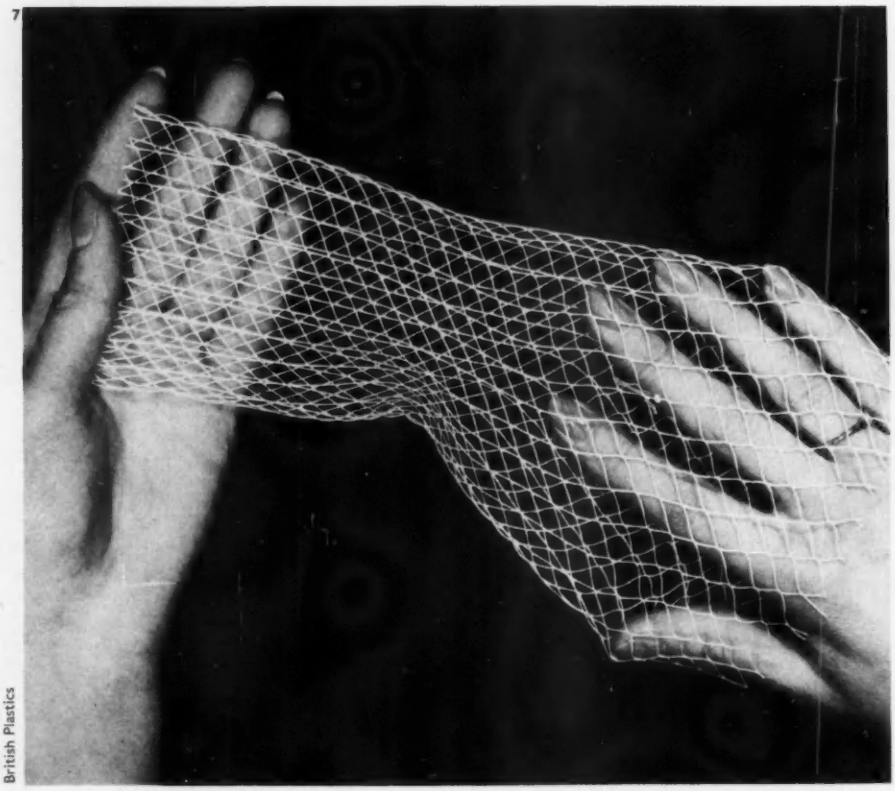
Light weight telephone

Elektisk Bureau A/S of Oslo, has recently added an injection moulded polystyrene telephone, **6**, to its range of products. The housing, handset, dial and several other parts are moulded in 'Styron 475' toughened polystyrene supplied by British Resin Products Ltd. Apart from the lightness in weight, associated with this material, many advantages over other materials are claimed for it. The high rate of production enables different sets to be made up from a number of interchangeable standard parts. 'Styron 475' can be produced in a wide range of colours, including pastel shades.

Continuous mesh

The already wide applications of plastics are being continually extended to include surprising and often unsuspected directions. An example of this is the development by Plastic Textile Accessories Ltd, of a process for manufacturing a plastics mesh, homogenous at the intersection of its filaments and involving neither heat nor solvent welding. The mesh is produced by a mechanism coupled to an extruder die which can be changed to give different filament sections. A variety of meshes and widths is available and the process lends itself to continuous production in the form of a sheet or if required a tube or 'sock', **7**, and permits the extrusion of a number of materials; those used so far are nylon, 'Terylene', polythene, PVC and rubber. Uses include packaging for breakable goods such as eggs, netting, sieving material, non-slip backing for carpets, radio receiver frets, laminate constituents, etc.

7



British Plastics

8

New moulds for concrete

Concrete Utilities Ltd has developed polyest glass moulds for the manufacture of structu concrete components such as roof trusses, a lamp standards, etc. At present three types mould are in use: for reinforced wall panel uni **8**, concrete roof trusses for garages and simil buildings, and reinforced concrete brackets for t top of street lighting standards. The moulds normally of chopped strand mat impregnated wi a 'Bakelite' polyester resin and laid-up on wooden former. Polyester/glass moulds are ligh than conventional materials and therefore eas to handle. It is also claimed that they are resist to corrosion and abrasion.

NEWS

PEOPLE

CoID and Scottish Committee membership

Sir Robert Maclean, who was an original member of the CoID Scottish Committee and successor to Lord Bilsland as chairman in 1949, retired from the chairmanship last month. His long period of office saw the move to the new premises in 1956 and the opening of the exhibition hall in 1957. He played a leading part in all the activities of the Scottish Committee and it was very largely due to the success of his 'Appeal to Scottish Industry' for funds that it was possible to move to improved accommodation and inaugurate a regular series of exhibitions. Sir Robert has, at the same time, retired from the Council, of which he has been a member since 1948. He has done much to encourage close and friendly co-operation between the two bodies. He is succeeded as chairman of the Committee and as a member of the Council by Sir Charles Connell, chairman of Charles Connell & Co Ltd, shipbuilders of Scotstoun, Glasgow. Sir Charles is a past president of the Shipbuilding Conference and the British Employers Confederation, and is joint chairman of Lloyds Register Technical Committee. He is also a part time member of the Iron and Steel Board. The Scottish Committee look forward to a new period of increasing activity under his lead.

Sir Charles Connell

The CoID welcomes two new members recently appointed by the President of the Board of Trade: R. S. Falk, managing director of the Marketing Development Co Ltd, and D. W. Morphy, joint managing director of Morphy Richards Ltd. Mr Falk has pointed out on many occasions the value of good design in marketing, on which subject he is very well informed. Mr Morphy has for years been an advocate of a consistent design policy in the electrical industry.

Two new members have also been appointed to the CoID Scottish Committee. They are Miss N. E. Harris, managing director of Sommerville & Milne Ltd, a leading Scottish Advertising Agency, and W. A. P. Jack, past president of the Glasgow Institute of Architects and a director of the Glasgow Chamber of Commerce.

The President has re-appointed as chairman, CoID, Sir Walter Worboys, commercial director of Imperial Chemical Industries Ltd, and the following members: The Lady Sempill, artist and designer; Sir Colin Anderson, a director of the Orient Line; Misha Black, architect and industrial designer; Professor R. Y. Goodden, School of Silversmithing and Jewellery, Royal College of Art: A. E. Everett Jones, managing director of Everetts Advertising Ltd and chairman of Mass-Observation Ltd; and professor J. M. Richards, architectural critic and author and a directing editor of 'The Architectural Review'.

Mrs Alison Settle, J. Cleveland Belle, F. Shepard Johnson and William Johnstone have retired. Mrs Settle, with great enthusiasm, brought a wide journalistic experience to the service of the Council. Mr Cleveland Belle as the original director of the Colour, Design and Style Centre of the Cotton Board in Manchester and a director of Horrockses Crewdson & Co Ltd, gave much practical experience to the CoID's work. Mr Shepard Johnson, recently president of the British Pottery Manufacturers Federation, gave generous help in the CoID's approaches to that industry. Mr Johnstone's experience on the training of designers, as principal of one of the best known design schools, the Central School of Arts and Crafts, has been of value to the Council.

Miss I. S. Gibson and Professor Robert Matthew of the Scottish Committee completed their periods of office in January, and Sir David Anderson, director of the Royal College of Science and Technology retired at the same time, having been unable to accept the President of the Board of Trade's invitation to serve for a further period. All three of these retiring members have made considerable contributions in their different spheres to the progress of the Scottish Committee's work.

R. S. Falk

D. W. Morphy

Miss N. E. Harris

W. A. P. Jack

Designer for CoID stand at Brussels

Robert Gutmann, the designer of the CoID's stand at the 'Brussels International Exhibition' (see page 26), is one of the leading exhibition designers in Europe. He studied architecture in Stuttgart before the war and came to Britain in 1939. During the Festival of Britain in 1951 he designed a section in the Dome of Discovery on the South Bank exhibition, and he has designed stands at the various British Industries Fairs.

Mr Gutmann is also known as the co-author, with Alexander Koch, of books on exhibition and shop design and he is now an associate of Design Research Unit.

Although Mr Gutmann has concentrated on exhibition design, he is also an interior, furniture and product designer. He prefers working on exhibitions because he feels the problems are more precise and there is less chance of commercial pressures and interference. At present he is engaged upon designs for office furniture and equipment and interiors of shops and offices in this country and on the Continent. Mr Gutmann has lectured on design both here and abroad, and he would like the opportunity to teach more than he does at the moment.

New executive

Leonard St. John Tibbitts has been appointed assistant managing director of Warner & Sons Ltd. Mr Tibbitts, who is a nephew of Sir Ernest Goodale, is a graduate of Manchester College of Technology where he took his degree in textile technology. He is an associate of the Textile Institute and joined Warner's as a trainee in 1938.

REPORTS & CONFERENCES

Free trade delays

Peter Tennant, Overseas Director, FBI, spoke of the formation of a Free Trade Area in Europe at a DIA meeting recently. Negotiations, he said, were getting more and more protracted and yet it was essential for the arrangement to come into effect next January so that the proposed Free Trade Area countries, as well as those within the Common Market, could begin tariff reductions at the same time.

He said that there was a higher level of trade between European countries than between Great Britain and Europe. He stressed the economic origins of the FTA and the political ones of the Common Market. He said that if the FTA were to succeed at all it must go along at the same pace as the Common Market. It would be no good trying to establish a FTA four or five years

continued on page 67

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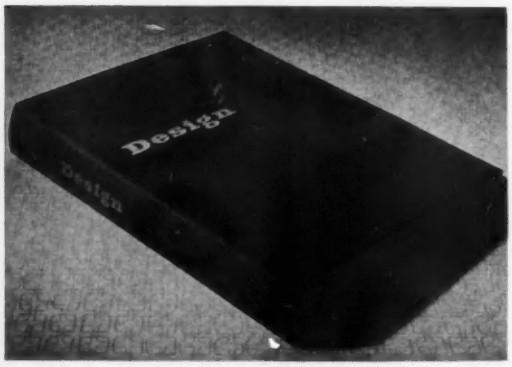
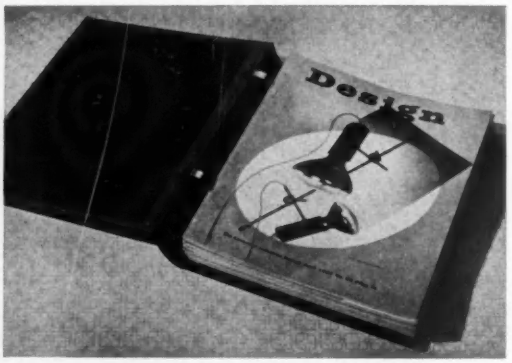




BINDERS FOR Design

are now available to take the new enlarged size of magazine, and are attractively bound in green linen, DESIGN gold blocked on front and spine and lined with black inside the covers

Two metal strips slide through the wire stitches. Each binder will hold 12 copies of DESIGN of any issue from April 1954.

BINDERS FOR DESIGN cost 13s each, or 14s 6d post free in the UK from the Business Manager, DESIGN, 28 Haymarket, London SW1.

NEWS

after the Common Market had been under way. British manufacturers must look on these expanded markets as home markets. Some firms may suffer but the problems are not, by any means, all economic. Design can overcome difficulties and surmount problems which on the surface would seem insoluble. Specialisation would be essential.

Mr Tennant also spoke of reactions in America to the Free Trade Area and said that there was a feeling that this scheme either may never happen or may happen too late for American companies with subsidiaries in Britain to participate fairly with trade in the Common Market countries. Some American firms, he said, were already planning to plant their subsidiaries in one of the Common Market countries rather than Britain. (See 'Design for European trade' by Peter Tennant, DESIGN November 1957 pages 21–23.)

Railway progress

Recently the Western Region of British Railways ran a special train from Paddington to Bristol hauled by the first of 96 diesel hydraulic locomotives which will eventually replace steam locomotives on West Country routes.

The new 2,000 hp locomotive, which was built by North British Locomotive Co of Glasgow with J. P. McCrum and Misha Black as consultant designers, is the latest fruit of the British Railways modernisation plan which has been mentioned several times in DESIGN magazine.

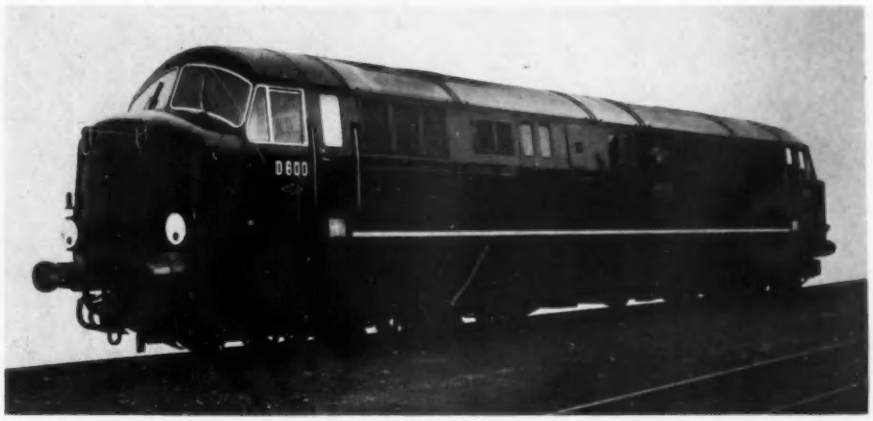
Some time ago George Williams, design officer to the British Transport Commission, read a paper to the DIA in which he gave a progress report on the short term design projects, listed below, which are being carried out by the design panel of the British Transport Commission. Mr Williams emphasised that these short term projects are designed to catch up with and to support the aims of the modernisation plan, and that the longer term policy is to keep pace with engineering development.

Two different types of electric locomotive and 14 diesel electric and diesel hydraulic locomotives with horse powers ranging from 800–2,300, together with five different types of suburban train are under development as well as two entirely new trains – a suburban electric and a luxury diesel express 'Pullman' train. Other work on train design includes: seating, lighting and ventilation improvements; restaurant and buffet car design; driving cab and control gear design; toilet equipment; symbols, badges and livery for locomotives, carriages and freight wagons; train numbers and typography and a number of smaller details such as ashtrays, curtains and blinds, etc.

The design panel and its consultants are also working on the design of the public accommodation in new British Railways' ships and on the selection of tableware, glassware, cutlery, etc; an improved design for a British Railways road vehicle. Lastly, a considerable amount of work is being done by the Hotels and Catering Services of the commission in employing consultant designers and architects.

On their toes

On a recent visit to Northern Ireland, where he spoke at a Government dinner, John Vaughan-Morgan, Minister of State at the Board of Trade, drew attention to the increasing need for good salesmanship, good design and efficient production if we are to survive in the export markets.



The new 2,000 hp diesel hydraulic locomotive for Western Region, see 'Railway progress'.

Mr Vaughan-Morgan suggested that we needed to floodlight our achievements better than we have done in the past, and that 1958 was going to be a year when our salesmen and our designers would have to be alert and on their toes.

Efficiency demonstrated

The past few years have seen a considerable growth in self service food shops, particularly in the South of England. Five major companies with interests in self service combined recently to stage in Sheffield what was described as the "biggest ever and most up-to-date self service shop in this country". It comes to Britain, we were told, "as a proven success from many parts of the world".

Self service sales cases were shown including the newest 'hip height' models designed to give shoppers a full view of the produce, finished in shining paint and chrome trim; scientifically arranged wall shelving designed to achieve maximum eye appeal, and, on the way out the 'Sageway Speed Master' automatic counter. The top of this counter, which also houses the cash register is fitted with a moving belt and swivel arm so that the customer's goods can be diverted swiftly and out of the way, to the packer. Methods of pre-packing food products in cellophane film were demonstrated. Fish, complete with thermoplastic label marked with weight, quality and price, was packed by this method, so were oranges and onions and even cauliflowers. This was done at one end of the shop in a separate preparation and packing room, but in full view of the main store.

I was told that it had been found in the South of England, where this method of selling has had time to develop, that when a store trading on traditional lines has changed over to self service, it has resulted in a 25 per cent increase in sales of food stuffs. This, obviously, does not mean that the South of England is increasing its buying of food by 25 per cent but only that we are changing our methods of selling at the expense of the small traditional counter top store. The baker's shop and the green grocer's shop, specialising in these products, are gradually losing the battle to the self service store, selling three tarts or three oranges, on a fibre tray and sealed with cellophane film, and next to it 'seal-tight' fish and 'Curly Top' curlers. All can be bought within a small area without walking more than a few yards.

While, I am sure, the self service store will continue to encroach more and more into our ways of buying food, I cannot help but think that this is one more step towards the American drugstore, though, of course, more English and more polite. DAVID R. MELLOR

Automation study

The sociological and economic aspects of automation techniques will be the study of one of the three groups which form part of the new British Conference on Automation and Computation. The purpose of the conference is to facilitate exchange of information between the various member societies and institutes.

The other two groups, which have already been formed, are for the engineering applications of automation, and computation and automatic control.

It is hoped that the conference will be able to participate in the 'International Exposition on Automation' in New York in June.

Newer shapes for the post?

The Postmaster-General, Ernest Marples, will speak on 'Design in the Post Office' at a lunchtime meeting of the DIA on April 10. The meeting will be held at 12.30 pm at Overseas House, St James's Street, SW1. Enquiries to the Secretary, DIA, 13 Suffolk Street, SW1.

Summer meeting on lighting

The summer meeting of The Illuminating Engineering Society will be held this year at Eastbourne from May 11–14. There will be an exhibition of lighting equipment at the Grand Hotel and several papers on lighting will be presented.

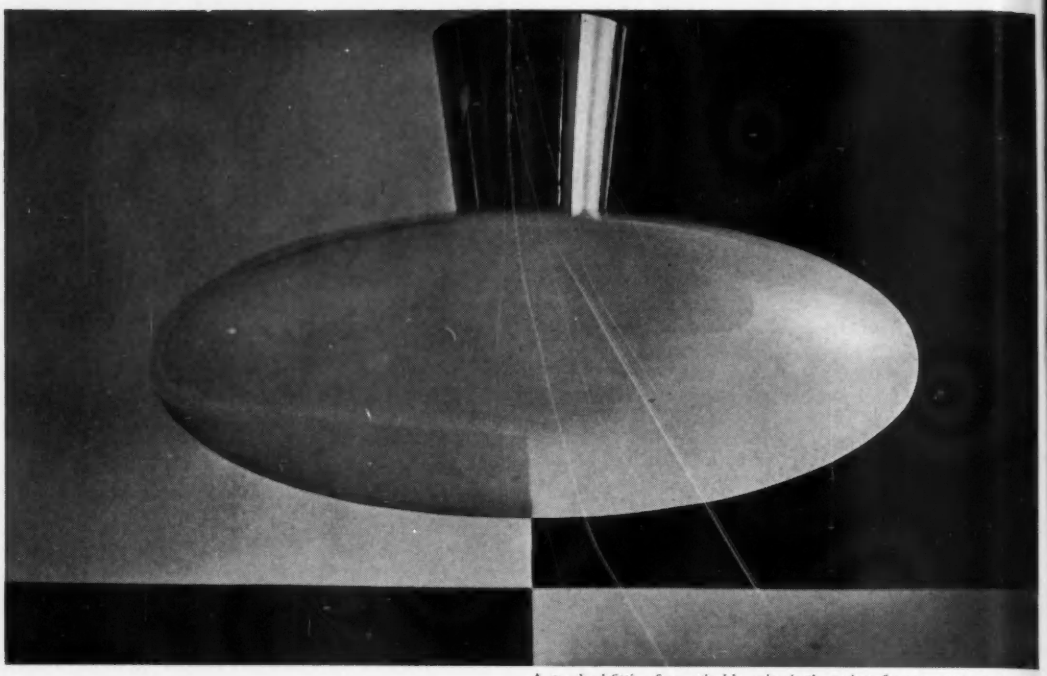
Attendance is not limited to members of the society and enquiries should be addressed to The Illuminating Engineering Society, 32 Victoria Street, SW1.

Packaging to be discussed

The Institute of Packaging is organising an international conference on packaging called 'Packaging and

continued on page 69

NOEL VILLENEUVE *Designer*



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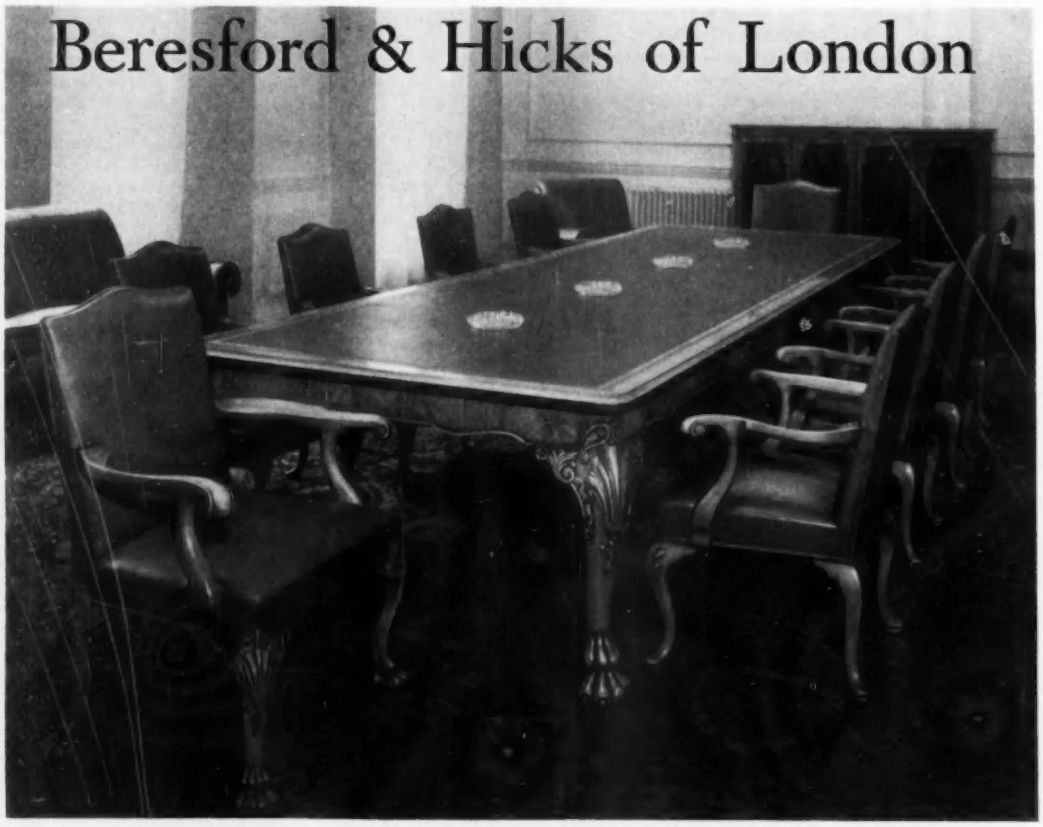

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NEWS

Profit'. It is to be held at the Grand Hotel, Eastbourne from April 24–26. Tickets and information from Maurice Paynter, The Institute of Packaging, 20–21 Took's Court, Cursitor Street, EC4.

EXHIBITIONS

Crafts

The Arts and Crafts Exhibition Society held its twenty-fifth exhibition at the Victoria and Albert Museum last autumn, thus spanning some 70 years since it was founded by William Morris. Most institutions with a long and distinguished record are tempted to become inbred and revere the past at the expense of the future. This exhibition, set out in a seemly fashion in one of the museum's great galleries, gave a hint that the craftsman in the studio may have more than a nostalgic philosophy to offer a modern machine-minded world.

It is in pottery that the future looks brightest. In the best the fundamental principles, pioneered for so long by Bernard Leach, have not been forgotten, but in colour and texture it has a refreshing primitive robustness. Ann Wynn Reeves now has a more fluent style and her majolica work is impressive. More subtle and simple in treatment is the black and green-brown ware of Marion Ehlers; her shapes are more than mere vehicles for decoration. There is also a richness of tone and texture in the unglazed ware of Paul Barron and of a newcomer, Gordon Plahn, who will be worth watching when he has improved his footwork. Standing sturdily between the older attitude and the new are the great gourd-like pots of Heber Mathews, simply incised and poised on squat columns.

Much of the best silver is by Leslie Durbin and Eric Clements, but in the main the designs – maybe because they are presentation pieces – suffer from a pomposity which is all the worse for being half-hearted. There are several pieces of unencumbered dignity which indicate the character of what could be a worthy new style in silver, clients permitting.

Then there is hand made furniture of exceptional manufacture, either honest joinery of the Cotswold kind, or exquisite cabinet-making of a Frenchified gentility. There are several pieces frankly being their age, a table in walnut by A. J. Eves with a tiled top by Nicholas Vergette, and a writing desk also in walnut by Ernest Joyce. And for the collectors of *objêts trouvés* there is Alfred Claiden's sensuous woodware.

Many other crafts were represented, the machine embroideries and appliqués which may well be our latter-day folk art, and round the walls like stately chaperones, sad and deb-less, were the textiles. J.N.W.

All the wrappings

London is to have a Packaging Centre, organised by the Institute of Packaging, from May of this year. It will be called The Packaging Centre, and its premises will be at 50 Poland Street, W1. The centre will feature a permanent, but constantly changing exhibition of packages, material, equipment and methods, an information bureau, and a technical reference library of British and overseas publications on packaging.

European design at store show

Woollands of Knightsbridge is organising an exhibition – 'Focus on Europe' – to be held from April to May which will feature merchandise from Great Britain and 13 Continental countries selected from every department throughout the store.

The planning of the exhibition is the result of numerous overseas journeys by the management and buyers to all the existing markets and some previously undiscovered ones. At home an extra effort has been made to find the very best in every field, and the result will be an interesting comparison between relative designs from different countries.

MISCELLANEOUS

Office furniture

The council of the Timber Development Association is organising a competition for the design of wooden office furniture. The competition is open to all *bona fide* designers working in collaboration with manufacturers and a prize of £500 is offered for the best design for a range of office furniture and prizes of £100 for the best individual items.

It is a requirement of entry that there should be collaboration between designers and manufacturers so that the designs produced are practicable and are capable of production at competitive prices. The assessors of the competition are Professor Robert H. Mathew, Professor R. Y. Goodden, O. G. Pickard, B. McGeoghan, CoID industrial officer for furniture, D. A. C. A. Boyne and E. Levin.

The closing date for entries is April 30. Details from the Secretary, Timber Development Association, 21 College Hill, EC4.

Industrial image

The images of industry are being tapped increasingly as a source of decorative design motifs. This photographic mural in the entrance hall of a new office block of Ilford Ltd at Ilford, Essex shows the use of ticker-tape.

Course for potters

It is proposed to inaugurate in September a special full time one-year course for designers for the pottery industry. This will be operated jointly by the College of Ceramics of the North Staffordshire Technical College and the Stoke-on-Trent College of Art. The course is intended for those students who have completed the NDD course at special level, and for others whose work shows sufficient promise. It will provide facilities for potential designers to be trained in all the decorative techniques of the industry, to carry out research on design, and to use the technical facilities available to put their ideas into execution.

Design Index

On April 1 the title of 'Design Review' was changed to 'Design Index'. Design Index – the CoID's photographic and sample record of well designed British consumer goods, forms one of the most important parts of the CoID's work and is a widely-used section of The Design Centre. It contains photographs and samples of some 9,000 products representing over 1,200 manufacturers and the categories range from street furniture and floor coverings to glassware and household tools. The picture above shows 'Design Index' in operation.

Entry will be by selection, and candidates will be required to submit samples of their work and to be sponsored by a principal of a college of art or some other responsible person.

Enquiries should be addressed to the Head of the College of Ceramics (North Staffordshire Technical College), Stoke-on-Trent, as soon as possible.

The 100 best

In May the Institute of Design, Chicago, will exhibit the 100 best mass produced designs from anywhere in the world. The selection will be based on the answers to a questionnaire sent by the institute to leading designers, architects, educators and editors. British members of the selection panel are Misha Black, F. H. K. Henrion, Milner Gray, Sir Herbert Read and Sir Gordon Russell, director, CoID.

Exchange arrangement

Sigvard Bernadotte and Acton Bjørn of Copenhagen, the Danish firm of industrial designers, has entered into a reciprocal agreement with Donald Deskey Associates of New York. The Danish firm will be represented in the USA by Donald Deskey who in turn will be represented in Denmark by Bernadotte and Bjørn.

Automatic animation

The word automation is figuring larger and larger in our lives and just recently a report from the USA couples it with the film industry. Colortech Films Inc of New York has announced that it has perfected a method of film animation using electronic instruments. The new technique does away with the need to produce hand drawn cells of conventional animation. It is

continued on page 71

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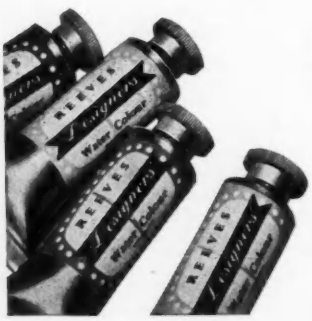

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NEWS

claimed that fully animated films can be produced in black and white or colour in a fraction of the time and cost which would normally be employed. The new method requires only one piece of black and white art work for each scene which is converted into electrical signals and then moved as desired. At present it takes six to eight weeks to produce 10 minutes of animation, whereas the automatic process reduces this time to one week.

Learning without tears

Every Christmas for a number of years now the Museum of Modern Art, New York, has arranged a Christmas Holiday Carnival and last year's carnival will form part of the US exhibition at the 'Brussels International Exhibition'. The carnival, which is organised by Victor D'Amico, director of the museum's department of education, consisted of a gallery of toys designed to introduce children to the pleasures of experimenting with colour, texture and pattern, and a studio work shop, illustrated below, where they can paint, build three dimensional constructions and

mobiles and make cottages and 'feeling pictures'.

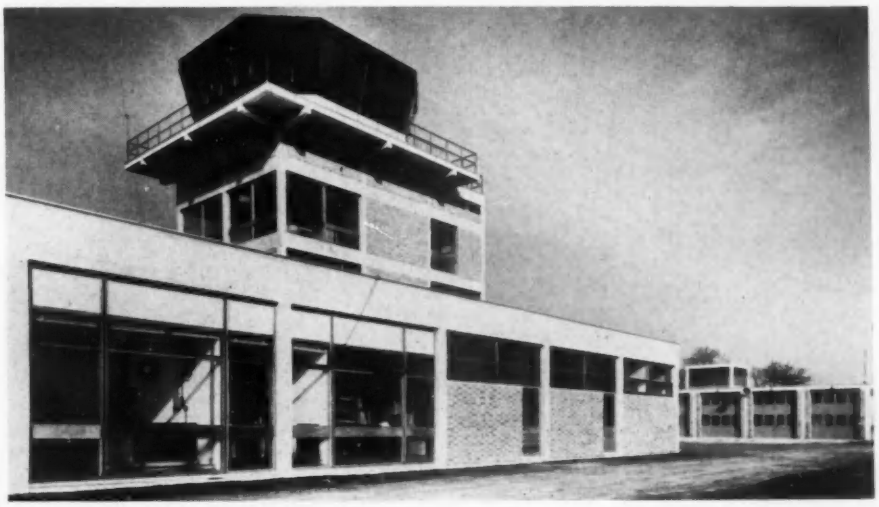
The toys, including some planned for group play, were designed by Victor D'Amico, Toni Hughes, Salvatore and Rosalind Grippi, and Arnold Arnold. The studio workshop was supervised by teachers and the walls were decorated with the paintings of Alexander Calder.

The activities of the carnival have considerable bearing on some of the points raised in the article 'Toys manipulation and make-believe' (DESIGN December 1957 pages 26–31) and it could be a useful guide to toy manufacturers for finding out how children actually play. It also relates in an embryonic way to the article 'Training product designers' in this issue.

New design council

The Design and Research Centre for the Gold, Silver and Jewellery Industries recently inaugurated a Western Regional Design Council at a luncheon meeting in Cheltenham. This is now the third such body to be set up by the centre, the other two being in Birmingham and Scotland, for the purpose of promoting better standards of design in industry and to widen the interest in 'design among manufacturers, retailers and members of the public.

Stanley G. Dent, principal of Cheltenham College of Art was elected chairman of the council and Robert Welch, the deputy chairman; the other members are L. T. Dummer, George H. Hart, Leonard Jones, E. Scott Cooper and Kenneth Waite.



The control tower of the new Gatwick airport, see 'Airport terminal'.

Airport terminal

Work on the first stage of the new Gatwick airport terminal buildings, which includes the terminal building itself, a new railway station connected to it, a control tower, and ancillary buildings is nearing completion and will be opened in June by Her Majesty the Queen. The new terminal has been designed in two stages by Yorke, Rosenberg & Mardall in collaboration with Frederick S. Snow & Partners, consulting engineers for airport development. This first stage is designed to meet the immediate needs for an alternate airport to London. A second stage will allow for future expansion.

Gatwick is the first airport in Europe to use the 'finger' system for passenger access to and from the aircraft. Three 'fingers' or piers, each over 900 ft long, will eventually reach out in a fan-wise fashion from the terminal buildings to the runways. At present only the centre finger is completed, the other two will be included at a later stage in the work, together with an office block surmounting the main terminal building.

This main terminal building is at the moment half its planned size, but the design makes provision for its extension at a later date. It is a concrete frame structure with an external cladding of steel mullions at 10-ft centres and glass infilling which incorporates decorative panels of 'weathered glass' specially designed by Peggy Angus. The control tower separate from the main complex is a concrete frame structure with brick infilling.

The interiors are divided into the public and non-public areas. The latter will be furnished with standard equipment, but the public areas are planned to exploit the combination of contrasting materials. For instance the concrete in the interior, which is 'country cut', is untreated, as are the asbestos ceiling panels. In contrast to this is the brickwork which is faced with white glazed textured tiles and the floor of dark green terrazzo. The furniture for the public areas has been designed by Robin Day, and includes a satin finished chrome steel frame easy chair with leather upholstery, a bench and several kinds of table. In the restaurant the dining chairs are the Charles Eames glass fibre chairs, now being manufactured in this country by S. Hille & Co Ltd.

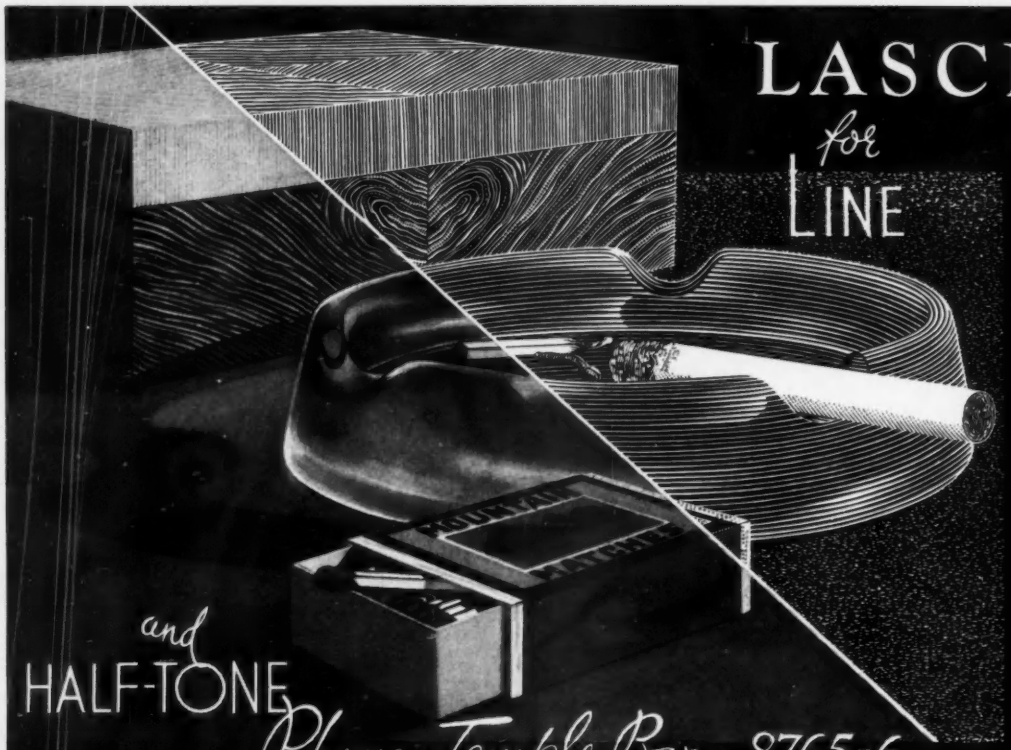
Design information wanted

Leeds College of Art is planning to extend the scope of its industrial design section in its library. The librarian would be interested to receive manufacturers' catalogues, information sheets and other material useful to this end. Communications should be addressed to the Librarian, Leeds College of Art, Vernon Street, Leeds, 2.

Consumer credit in America

An article in a recent issue of the American magazine 'Consumer Reports' discusses the question of consumer protection against overpayment in hire purchase contracts. Recently President Eisenhower announced that consumer credit on progress payments would remain unrestricted, unlike this country where controls have been tightened. Credit spending is very much more widespread in the USA, and there as here the system is wide open to abuse. American customers are frequently not told, or are deliberately misled, about the rate of interest they are paying, and until a standard method of quoting charges is enforced, price comparisons between different products and instalment lenders cannot be made; nor are contracts nearly carefully enough drawn up from the point of view of the consumer. 'Consumer Reports' presses for legislative

continued on page 73



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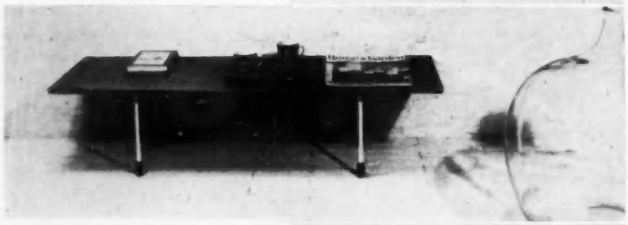

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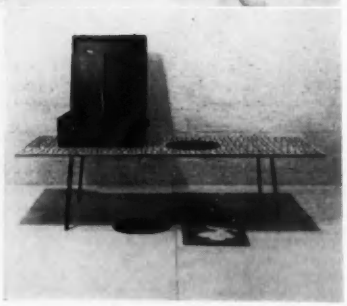

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action to standardise and clarify methods of price quotation.

In this country the recent report on 'Hire Purchase and Credit Buying' by the National Council of Social Service, discussed in DESIGN for August 1957 pages 41–2, expresses a similar concern. For a note on new legislation on hire purchase, see DESIGN for March, page 71. DOROTHY MEADE

LETTERS *to the Editor*

Cutting and blowing

SIR: I was very interested to read your 'Comment' (DESIGN July 1957 page 13). Although you mention a number of industries, I think that the problem to which you refer applies very definitely to the British hand made glass industry and, to a lesser extent, to the pottery industry.

I have a particular interest in glass and pottery – more particularly in glass than pottery. You write of the problem with special reference to the export trade, but no really sound export business can be built up unless there is a firm demand for the same kind of goods in the home market.

There is in this country a vast untapped market for a kind of glassware which is just not made in this country – table and decorative glassware which is more in keeping with the present time and with present-day trends in furnishing. To meet this demand glass is imported, mainly from Scandinavia, but this imported glass is not really the complete answer to the demand; it is a near answer but it does not really appeal to more than a few of the people who look for glassware to use on their contemporary tables in their rooms furnished with contemporary carpets, textiles, wallpapers, etc.

In my opinion, the glassware which would really meet the needs of this unsatisfied market in this country can only be made in this country, by using British designers working in British factories.

There is a considerable amount of skill and craftsmanship in the British factories which is being wasted. The true craftsman can only develop if there is an element of adventure in his work, if there is a demand on him to exploit his craftsmanship to the full. This does not happen here. The average blower spends his time making 'blanks' for cutting; he exists to provide work for cutters, and I do not think it is far from the truth if I were to say that we have an industry whose main object seems to be to provide work for cutters, and this can be seen in its attitude to its customers.

I write on this matter with a certain knowledge gained through over 20 years' experience selling and designing hand made glassware, and it has always been a disappointment to me that I have to go abroad to get the glassware I design manufactured.

I would suggest to the glass manufacturers of Stourbridge that they would be doing a great service to themselves and to their countrymen, and that they would incidentally find the beginnings of a new export trade, if they were to examine seriously the possibility of using this craftsmanship which undoubtedly exists in the British glass factories.

I would dearly love to see the glass industry invest some money in a small factory which would experiment with making, would spend time on research on the craft side of the industry, and to try to match the progress made on the technological side. Such a factory would not have to be condemned to use any one particular kind of 'metal' or to exist just to keep one class of worker employed, but it would have to provide the answer to such questions as how do the Swedes or the Belgians produce hand made glass of better quality at lower prices while paying wages at least as high, if not higher, than ours.

It would have to use and train craftsmen and give them back the feeling of adventure, the feeling of wishing to try something new instead of stagnating, repeating designs which were exciting 150 years ago. It would have to be willing to invite designers into the factory and let them work alongside the blower.

We have a strong sense of tradition in this country, and it is this which gives us our respect for really good design from the past. It gives a stability which is not swayed by crazes or fashions which sweep away good things as well as bad, but to preserve an ancient monument is one thing, to copy it another. British designers working in a British glass factory such as I have suggested, paying respect to the best of British craftsmanship in design in the past, would inevitably find a style which would be truly British, and I am quite sure that it could only be of benefit to the industry as a whole.

And how nice it would be for a young married couple with modern ideas to find some British made glass in the shops which would fit in their new home.

R. STENNETT-WILLSON
53 Cholmeley Crescent, N6

We asked the Glass Manufacturers Federation for its comments and Cyril Weeden, public relations officer of the federation, replies as follows:

"As we see it, Mr Stennett-Willson's main criticism of the British hand made glass industry is that he has to have his designs produced abroad. It is difficult for us to comment on what is obviously a personal problem, but we would be interested in knowing when he last approached a British manufacturer, and with which design.

"The comment that independent designers are not invited into the factories is surely an unworthy criticism of those designers whose names are as well known to Mr Stennett-Willson as to us. Not only does the industry employ trained designers, but each company has its own sales organisation, a fact upon which Mr Stennett-Willson has not commented. He complains that British manufacturers are too keen on cutting their glass, but what wrong is there in this? Apart from the fact that one company, at least, specialises in producing uncut glassware, the remainder are experimenting in lighter cutting and designs unassociated in any way with traditional patterns. The Design Centre accepts British hand made glass, one example of which received an award as one of the 12 outstanding designs early last year. That particular range of stemware was uncut, but many, if not most of those shown in The Design Centre are cut.

"What is this large untapped market to which Mr Stennett-Willson refers, which can only be met by imports mainly from Scandinavia? The official figures available show imports of glassware from Scandinavia which include types which probably do not come within the scope of his comments. We have been unable, therefore, to assess the size of the market which he refers to, but we have noted that Britain herself sends domestic glassware to Sweden, and, of course, to many other markets throughout the world. The second point is that the Swedish and Belgium manufacturers make better quality glassware at lower prices and yet pay as high, or higher, wages than the British. We should like to see the evidence to substantiate these points.

"There are nine factories in Britain using hand methods of production and although principally melting lead crystal glass, other glasses, are in fact, melted. There is surely sufficient evidence from current production to show that the range of design and colours is constantly being added to, and it is difficult to understand why Mr Stennett-Willson should suggest that yet another factory be set up when the experiments he asked for are already being carried out."

On the right lines?

SIR: I was interested to see the illustrations of the experimental designs for British Railways rolling stock in 'Report on railway progress' (DESIGN October 1957 pages 25–9) but cannot help feeling that the designers concerned are making a completely wrong approach to the problem. Many of the carriages shown have something of the appearance of aeroplane interiors, and reflect the current unhappy tendency to pamper the passenger with so much luxury that he almost ceases to be aware he is travelling. There are, to my mind, five very important considerations to bear in mind when designing standard rolling stock (as opposed to that for use on special trains), namely: the high cost of building new coaches; the high cost of maintenance and cleaning, especially while steam traction is used; the passengers' real physical, as distinct from visual, needs; the destructive tendencies of travellers, especially on cup-tie specials and excursion trains; the British climate.

The railways are already running at a loss, and their clients are constantly having to meet fare increases. Everything possible should therefore be done to cut costs through a slightly austere conception of rolling stock design, and by the elimination of equipment and finishes which give an air of luxury, yet do not contribute to real comfort.

There should, for instance, be no need for individual lamps if the general illumination in coaches were intensified. Savings could be made in seating by keeping seats thin, but shaping them ergonomically, and confining expensive coverings to where they are needed, instead of taking them almost to the floor, where they encounter muddy shoes. There are good plastics seat coverings available, which are far more easily cleaned than moquette. Seats with adjustable backs, a proposed innovation, are expensive to install and maintain, and only lend themselves to abuse.

There is seldom sufficient provision for hand luggage, and racks should always be over the seats, with wide, wood slatted shelves, and dividing bars where the seats are back to back.

Higher standards are also needed in heating, which is seldom adequate in really cold weather. Special care should be taken to avoid heat loss and draughts in corridors and vestibules. It is also high time that coaches were provided with an alternative, electric heating system for use with electric locomotives, and for 'plugging in' to warm the coaches before the start of a journey. No passenger is going to be impressed by

continued on page 75

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LETTERS

any of the interior decorator's efforts if he has to endure cold feet on a five hour journey.

Compartment stock could well be eliminated for short distance travel. The multiplicity of doors complicate construction and maintenance, and are always draughty in winter, while the small windows give one a boxed-in feeling and are difficult to clean. The current argument about quick loading is hardly valid for suburban traffic in the rush hours, where people constantly join the train but few alight before the terminus on inward journeys, and the reverse happens going outward. Wide sliding doors are the only real solution, and all trains should have corridor connections throughout.

I feel that these matters have already been tackled most successfully in both Holland and Switzerland and we could do well to follow their example.

ALAN DODSON
42 Meadow Walk
Harpenden
Herts

Keeping it fresh

SIR: With reference to your article 'Practical packs' by Dorothy Meade (DESIGN December 1957 pages 56–9), we do not claim that our packs are perfect; on the contrary, we realise that an easy-opening device and greater pack stability would be advantageous. The present cartons are, however, the most satisfactory which we have been able to produce in 50 years of experiment. All the easy-opening devices submitted to us have had an adverse effect on the rigidity of the carton and on its ability to resist the effects of atmospheric humidity.

We do receive occasional unfavourable criticism of the shape of our cartons, but such complaints are rare despite the fact that we are selling millions of packets of our products a week. Our cartons have the best possible shape for food which must be protected, as far as possible, from exposure to the air. The tall, narrow carton facilitates the closure of the inner 'Waxtite' bag after each serving.

In our experience, no other shape will ensure that the food reaches the consumer in factory-fresh condition.

Your article was read with interest.

A. A. LINES
Advertising Manager
Kellogg Company of Great Britain Ltd
Stretford, Manchester

Dependability and design

It is a deep rooted belief that the architecture of banks should in some way symbolise the position of trust they enjoy in the community. This has usually meant 'Bankers' Georgian' or an equivalent style, but there is one banking house at least, Martins Bank Ltd, which has turned its back upon the antique. (See 'Architectural enterprise in banking' by R. Furneaux Jordan (DESIGN July 1956 pages 22–7).)

The illustration above shows a general view of the banking hall of the Africa House branch of Martins Bank, the interiors of which have recently been redesigned by Michell and Adams.

BOOKS

Penrose annual, volume 51

Edited by R. B. Fishenden, Percy Lund, Humphries, £1 15s

For many years the 'Penrose Annual' has been edited by R. B. Fishenden; to everyone's regret he died while working on this volume. Just as Bacon was the last man to be aware of all knowledge so must Fishenden have been the last man to have been closely in touch with all sides of the graphic arts. This book is an excellent epitaph to a great, learned and much loved man, and in it Mrs Beatrice Ward has written an admirable tribute to him.

Several articles aeknowledge the fact that facsimile reproduction is hardly possible although accurate interpretive work is. When an artist knows that his picture is going to be printed then the reproduction can be an extension of his creation. Geoffrey Ashburner shows the former point by reference to the exquisite reproductions from The National Gallery, London. Noel Carrington proves in his account of a century of Puffin books that artist and printer can create something new by collaboration. Among the 42 articles there is one by James Laver showing Frank Brangwyn's skill in the graphic arts. The interesting story of decorated papers with illustrations has now been written; Penrose excels at sponsoring things like this. It is good to see that state control of printing has a good effect in Czechoslovakia while over here we must fight to get David Kindersley's street lettering accepted by councils content with illegibility.

The technical articles show aspects of colour scanning, film setting, and the Dow magnesium etching process. The 'Correctone' photographic process with a double layer of emulsion has possibilities, and the article on colour matching which shows that it should be done under a combination of tungsten and fluorescent lights is well worth study. Generally we see that the current trend for printing to expand fastest in the photographic and electronic fields is continued.

As always with 'Penrose' it is a pleasure to handle such an excellent and diverse anthology about the trade. R. S. RUSSELL

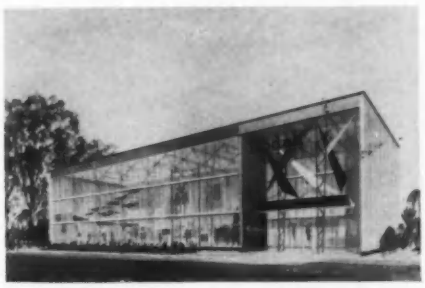
Piet Mondrian

Michel Seuphor, Thames and Hudson. £6 6s

"Man is enabled by abstract-aesthetic contemplation to achieve conscious unity with the universal."

"The deepest purpose in painting has always been to give concrete existence, through line and colour, to the universal which appears in contemplation."

"Real life is the mutual interaction of two oppositions of the same value but of a different aspect and nature. Its plastic expression is universal beauty."



In the picture

This drawing shows the Kodak pavilion at the 'Brussels International Exhibition'. It has been designed by Jack Howe, with interior displays by Kenneth Grange. One inside wall of the pavilion is devoted to a display of large colour prints ranging from 44-75 sq ft in area showing photography at work in medicine, industry, research, communications, etc.

These three quotations from the writings of Mondrian both indicate the direction that his art has taken and account for his position as the 'eminence grise' of modern art. His dedication to this contemplative non-explicit 'universal' has set him apart, a lonely figure creating a mesmeric mystery from the, apparently, simplest forms that have yet been used in the creation of a mature body of work. These forms, derived from sources as disparate as the writings of the Dutch mathematician-philosopher Shoenmakers and the precise flatness of Mondrian's native Holland, consist of the balance of contraries or oppositions, namely, the vertical and horizontal (representing the male-female, space-time, statics-dynamics, harmony-melody) and the three primaries red, yellow and blue used in flat areas. It is a paradox of Mondrian that, although he expressed a distaste for individualism in painting, his work has proved, in the event, to be the most apparently idiosyncratic produced in this century, since the 'universal' he has attempted to express has remained private and inscrutable.

Despite, or perhaps because of, the austerity of means, he has exerted considerable influence both upon painting and modern design forms. In painting he has come to represent the 'classic' in abstract art in contradistinction to Kandinsky. In design, it has been through his theories of Neo-Plasticism and his association with De Stijl. This modern Dutch art movement of which he was co-founder in 1917 with Theo Van Doesburg, J. J. P. Oud, Van Eesteren, Georges Vantongerloo and others, was one of the first to enquire into the conceptions of space-time (note Mondrian's contraries) and interpenetration of volumes that architects like Mies Van Der Rohe have utilised and extended. Its influence subsequently spread to poster design, typography and interiors. That the movement has not received extensive general acknowledgement is due in part at least to the popular idea of the Bauhaus as the sole source of modern design.

Mondrian's considerable influence in this development is clear and it is therefore a great disappointment to find that the new lavish and expensive monograph deals sketchily with his relationships to the others in

continued on page 77

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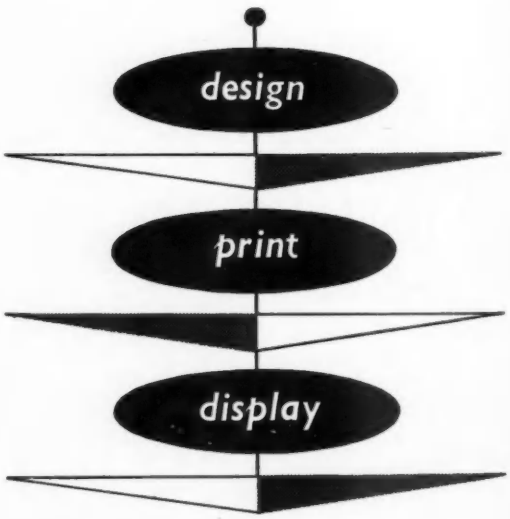

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BOOKS

the group and attempts no estimate of his influence in the various fields of design. For instance J. J. P. Oud and Vantongerloo are mentioned only by name and G. Rietveld, the designer of the first house built on De Stijl principles, is omitted altogether. The author, a close friend of the painter, gives many personal details and much gossip but of analysis or interpretation there is so little that the main interest lies in the fine photo-catalogue and the translation of the painter's revealing dialogue-essay 'Natural Reality and Abstract Reality' quoted above. TREWIN COPPLESTONE

Timber, its development and distribution

Bryan Latham, Harrap, £1 5s

This short historical survey covers a very wide field, from the Egyptian craftsman of 1500 BC to the mass production factory of today. It is the fruit of a lifetime in the timber trade, and of wide-ranging research.

After a general review of the production and marketing of timber from the early middle ages onwards, there follow chapters on the adventurous history of trading in the various timber-producing regions of the world, with statistics showing the expansion (and sometimes the near-extinction) of the chief commercial timbers, the fluctuations of prices, and much else.

Readers of DESIGN will be mainly interested in the later chapters, for instance, 'Sawmilling', sketching the progress of power machines from the sixteenth to the twentieth centuries; 'The Carpenter', with a wealth of detail from medieval and later documents; 'Timber Houses and Halls', outlining development from the Iron Age hut to the latest prefabricated timber houses. The concluding chapter describes wooden ships from the earliest seagoing vessels to Nelson's 'Victory'.

The author writes as an historian with no axe to grind. His own firm, James Latham Ltd, is one of the oldest in the trade, but its name is nowhere given more prominence than those of its competitors. Such objectivity is both rare and refreshing.

The book is illustrated, and has a bibliography and a full index. HAMILTON T. SMITH

BS 308:1953, amended 1955 and 1957

Engineering drawing practice, 10s 6d

In considering the value of this publication in relation to the industrial designer it must be remembered that it does not set out to be a text book for students of engineering drawing. Its function is as a standard work of reference on the essential language of draughtsmanship and, as such, it does an excellent job.

BS 308 will not tell you when it is necessary, say, to specify geometrical tolerances, but it does tell you how to do so with some confidence that the components will assemble and function correctly.

If you want to know what is the normal or the smallest economical tolerance between two holes in a machined, pressed or die-cast part BS 308 will not tell you, but it will tell you how to put them on a drawing so that they will be understood in every workshop in the country.

Engineering drawing is an essential step in the transformation of an idea into a product, but, like pattern-making, it is only a means to an end; therefore, the issues raised by its actual method of execution tend to be somewhat academic. Nevertheless, it is possible, in all good faith, to dimension drawings so that they can be interpreted in different ways and this alone makes BS 308 an essential item in any design office. BS* 1192:1953 'Drawing Office Practice for Architects and Builders' is sometimes useful too.

For those industrial designers who want to know what, where and when rather than *how*, a book such as Fawcett's 'Designing for Mass Production' will be much more useful than BS 308. A. B. KIRKBRIDE

BS 1732: Part 2:1958

Domestic electric steam irons, 5s

This new standard sets out, among other things, details of tests calculated to ensure a satisfactory quality of mechanical and electrical construction. As an example, clause 25d is worth quoting. "Water Spillage Test. With the iron in the position for filling, as recommended by the manufacturer, the water reservoir shall be filled to maximum capacity, after which a further ¼ pint shall be allowed to overflow around the area of the filling orifice. Immediately after this spillage, Tests b and c shall be repeated." Tests b and c involve the application of currents of 500 and 1,500 volts. To be acceptable according to this standard a steam iron must be capable of surviving a repetition of these tests after 480 hours of use and 1,000 drops on to a steel plate. L. BRUCE ARCHER

Electronics in the office

Office Management Association, £1 1s

It is rare to find a book about the application of computers to office work that is not composed of hypothetical examples, extravagant claims and detailed descriptions of imaginary business procedures. This book is different. It consists of recorded experiences of people who have actually used computers in offices or have realistically investigated the possibilities of doing so. Many of the writers are organisation and methods investigators from such varied companies as Shell-Mex, Littlewood's, Lyons and Rolls Royce.

Two general conclusions are commonly agreed. Firstly that it is difficult to obtain a direct financial saving immediately after a computer is installed and secondly that the real difficulties lie in finding new methods of work for the residual office staff whose tasks are not mechanised.

It seems that it is much more difficult to mechanise part of an office system than it would be to mechanise it all. The rewards are less and the problems greater. But it is by this troublesome method of piecemeal growth that a unified data processing system will surely grow.

The carpet annual 1957–8

Edited by H. F. Tysser, British Continental Trade Press Ltd, £1

The value of this year book of the world's carpet industry naturally depends greatly on its statistical and directory content which this year would seem to be at least as comprehensive as in earlier years. It also contains an illustrated section devoted to carpet design. In this the British carpet industry is naturally very strongly represented but there are also a number of designs from Continental manufacturers.

Perhaps the most interesting thing in 'The carpet annual' from a design standpoint is the excellent article by Maurice Catesby of Catesbys Ltd, the furnishing store in Tottenham Court Road, London. Mr Catesby writes of the rapid spread of popularity in contemporary design styles in carpets. He coins the phrase 'barrow boy contemporary' for the over-coloured, frankly ugly modern designs which reached a peak in promotion at the time of the Earls Court exhibition in March, 1957. His praise for the more restrained but thoroughly original styles offered by the more advanced producers may do a great deal to confirm the carpet industry in a reasonable path for future design progress. D. JOHNSTON

Design's index

The index to DESIGN (Design 1957, Volumes 9 and 10) will be sent only to those readers who request it from the Circulation Manager, 28 Haymarket, SW1. Copies of DESIGN for 1957 can be bound in two volumes at 17s 6d each volume. Copies should be sent direct to Benham and Co Ltd, 12 Culver Street, Colchester, Essex. Readers having copies bound need not order a separate index as this is included in the bound volumes.

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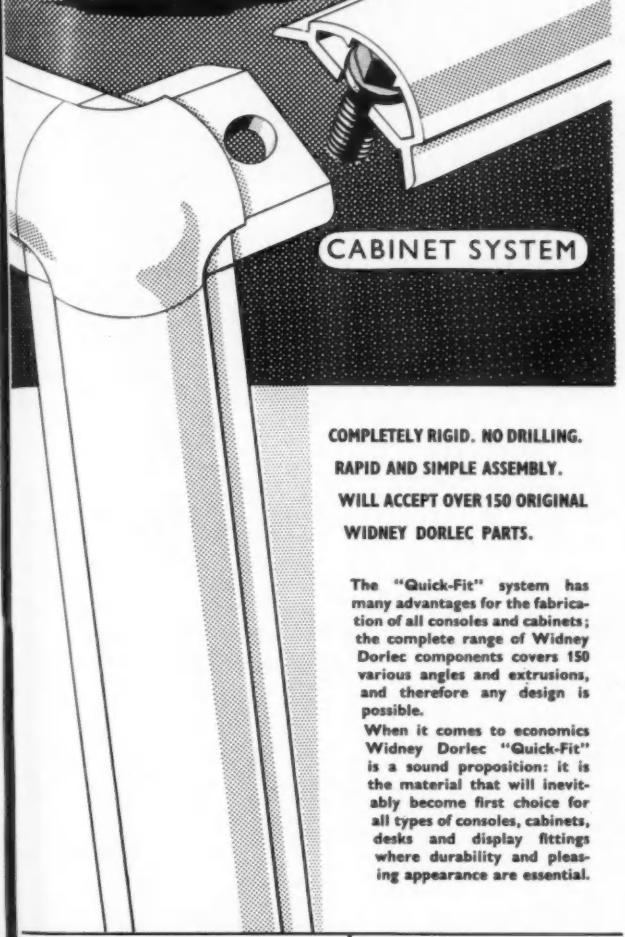

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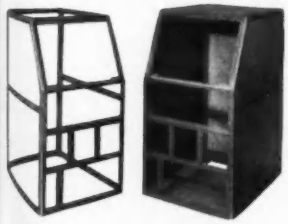

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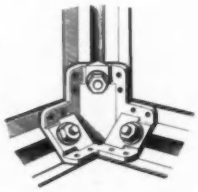

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